TC 1-200

COMMANDER'S GUIDE TO THE AIRCREW TRAINING PROGRAM

COORDINATING

DRAFT

April 2000

HEADQUARTERS, DEPARTMENT OF THE ARMY

TABLE OF CONTENTS

CHAPTER 3
TRAINING REQUIREMENTS

CHAPTER 4
AVIATION MAINTENANCE

CHAPTER 5
RISK MANAGEMENT

CHAPTER 6
FLYING-HOUR PROGRAM

CHAPTER 7
AVIATION TRAINING GUIDELINES FOR UNIT STATUS REPORTING

ANNEX A
AIRCREW COORDINATION

ANNEX B
NIGHT VISION GOGGLES

ANNEX C
AIRCREW TRAINING RECORDS

ANNEX D
TASK DEVELOPEMENT

PREFACE

This training circular (TC) is the capstone publication for the Army Aircrew Training Manual (ATM) series of publications. Based on the battle-focused training principles outlined in FM 25-101/101, this TC, the ATMs and the *new* Aviation Combined Arms Training Strategies (CATS) are designed to help commanders at all levels develop, implement, and administer a comprehensive aircrew training program (ATP).

This manual encompasses individual, crew, and collective training and establishes crew member qualification, refresher, mission, and sustainment training requirements. It also gives guidance on tailoring training to meet individual, crew, and collective needs based on the unit METL. It provides guidelines for predicting and allocating unit flying hours to ensure that the commander gets the greatest possible training value out of every flying hour. This manual applies to all unit commanders who have aviation assets.

The new Commander's Guide discusses and explains Aviation CATS; it establishes two new collective training readiness levels (RL) for rated and non-rated crew members (RCM and NRCM); it eliminates FAC 3 authorization in MTOE brigades and below for RCMs; it prescribes greater involvement by commanders during RL progression evaluations; it emphasizes proficiency and PC requirements for all aviators but particularly junior officers; it redefines readiness reporting criteria; and it also changes the numbering of the ATM TCs.

The proponent for this publication is HQ TRADOC. Send comments and recommendations on DA Form 2028 through the aviation unit commander to Commander, US Army Aviation Center and Fort Rucker, ATTN: ATZQ-TDS-T, Fort Rucker, AL 36362-5000, or direct e-mail questions to the following address: ATZQTDS@RUCKER.ARMY.MIL

If a conflict exists between this publication and individual aircraft ATMs, this publication takes precedence. As applicable, all personnel are reminded to refer to other applicable regulations, supplements circulars, etc. for guidance designed specifically for a particular unit, region, service, etc.

As appropriate, all personnel are reminded to further refer to appropriate Major Command (MACOM) supplements to regulations, circulars, manuals, etc., e.g. with respect to AR 95-1, ARNG personnel would refer to NGR 95-1; USAEUR personnel would refer to USAEUR Supplement to AR 95-1.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

This publication has been reviewed for operations security considerations.

CHAPTER 1

INTRODUCTION

Effective training guidance requires the personal time, energy and guidance of commanders. Commanders must observe and assess training at all echelons. Their specific emphasis on training is one level down and evaluating two levels down. As an example Battalion Commanders train Company Commanders with their companies and evaluate platoon leaders with their platoons. Company Commanders train platoon leaders with their platoons and evaluate section, squad, team, and crew leaders with their units.

1-1. BATTLE FOCUSED TRAINING

Battle focus is a concept used to derive peacetime training requirements from wartime missions. Battle focus guides the planning, execution and assessment of each organization's training program to ensure its members train as they are going to fight. It is critical throughout the entire training process for commanders to maintain battle focus when allocating resources for training based on wartime mission requirements. Its implementation enables commanders to structure a training program that copes with non-mission related requirements while focusing on mission essential training activities. Battle focus is a recognition that a unit may not attain proficiency to standard on every task due to time or other resource constraints. However, commanders can achieve a successful training program by narrowing the focus to a reduced number of tasks that are essential to mission accomplishment.

1-2. AVIATION BATTLE FOCUSED TRAINING

Aviation training principles are not different from other combat arms branches. However, the impact of operating in the third dimension with high technology weapon systems requires that unique considerations be given to developing and maintaining proficiency at the individual, crew and collective levels. The key to fighting and winning is an understanding of “how we train to fight” at every echelon. Training programs must result in demonstrated tactical and technical competence, confidence and initiative in our soldiers and their leaders. The Army’s training doctrine as established in FM 25-100, Training the Force, is solid, as are the techniques and procedures for planning, executing, and assessing training found in FM 25-101, Battle Focused Training. Every commander must know, understand and apply the concepts found in these manuals.

1-3. INTEGRATION OF SOLDIER, LEADER, AND COLLECTIVE TRAINING

A critical aspect of the battle focus concept is to understand the responsibility for and the linkage between collective mission essential tasks and individual and crew tasks, which support them. Aviation NCOs and warrant officers with the technical and tactical expertise provide management assistance to the commander to train and evaluate his unit. As a team, the commander, command sergeant major, and standardization officer must jointly coordinate the collective mission essential tasks and the individual and crew training tasks on which the unit will concentrate its efforts during a given period. NCOs have the primary role in training and developing individual soldier skills. Evaluators/Trainers (SPs, IPs, IEs, MEs, UTs, PCs, FIs, and SIs) have the primary role in training and developing individual aviator and crew skills. Officers at every level remain responsible for training to establish standards during both individual and collective training.

1-4. COMBINED ARMS TRAINING STRATEGY (CATS)

The Combined Arms Training Strategy is the Army's "over-arching training architecture". It contains TRADOC approved training and doctrinal strategy, and provides the framework for total Army structured training for units and institutions. CATS group multiple tasks by function. This grouping provides seamless integration of tasks into combined arms task oriented training strategies. Current CATS provides doctrine based training strategies including events, gates, and training resource options for the institution and unit trainer. It integrates training horizontally among levels of a type unit and vertically across the combined arms and services team. Aviation CATS include a crosswalk of individual, crew, and collective METL tasks that require flying hours, and, as such, provides a basis for the preparation of a unit's flying hour program.

1-5. TRAINING PLANNING PROCESS

The training planning process as outlined in FM 25-101 links unit METL and the execution of battle focused training. Commanders initiate the process using subordinates, primary staff members, Warrant Officers and NCO leaders to assess the training level on mission essential tasks. The process is two phased, including long-range and short-range planning. The Aircrew Training Program is an integral component of the long and short-range calendars. Most importantly, it must be specifically addressed in the commander's quarterly training guidance, and it must be an integral part of quarterly training briefings at all levels of command.

1-6. LEADER DEVELOPMENT

Aviation leaders must be proficient aviators, capable of performing individual and crew duties as pilots, to ensure that they are capable of fighting their systems and units. A fundamental step in the leader development process for aviators is achieving pilot in command (PC). An ATP must provide for leader development and collective training (crew through brigade battle staff). Special attention to provide opportunities for the development and sustainment of junior commissioned and warrant officer professional flying skills is paramount. A major change in this TC is the requirement for all MTOE brigade and lower aviators to be placed into FAC 1 or FAC 2 positions. Commanders are required to have a Pilot in Command (PC) program that entails much more than just another check ride. PCs are required to demonstrate maturity in all circumstances, to be leaders in the cockpit, and to be capable of making sound technical and tactical decisions.

1-7. TRAINING MANAGEMENT

Aviation commanders must become familiar with FM 25-100/101. They are the training foundations for the Army, used to format training plans, quarterly training briefs (QTBs) and resourcing documents within divisions and corps. Unfortunately, these FMs as of yet do not consider some unique aspects of aviation training; thus, this TC provides additional guidance. The commander's challenge is to develop a Battle Focused ATP in concert with the Battle Focused plans of the other combined arms team, and to include it in appropriate QTBs as a vehicle to educate non-aviators.

1-8. TRAINING AIDS, DEVICES, SIMULATORS, AND SIMULATIONS (TADSS)

It is difficult in today’s world to train and maintain a modern aviation battalion at an acceptable level of proficiency without the use of TADSS. Resources, environmental restrictions, personnel turbulence (PERSTEMPO) and safety put serious limitations on the dictum to "train as we fight". ATPs must reflect structured training programs that maximize the use of available TADSS for individual, crew and collective training. Structured training programs, technical and tactical, with supervision and after action reviews are necessary for individual, crew, and collective simulation training periods. Commanders must be familiar with the Army's training modernization process, Army Training XXI (AT XXI). Familiarization with AT XXI will allow them to capitalize on high technology training concepts such as Distance Learning via Classroom XXI. Access to the Army Doctrine and Training Digital Library is readily available via the Internet at http://www.adtdl.army.mil.

1-9. RESOURCING

Resourcing is a major challenge for all commanders. Chapter 6 of this TC provides guidance on the preparation of a unit's flying hour program. Most importantly, aviation commanders must understand and work the resourcing processes. The Division Commander's QTB is an effective medium for educating higher level commanders and staffs on the resourcing process.

1-10. READINESS

Unit commanders will "maintain the highest unit status level possible with given resources". AR 220-1 and this TC provide aviation commanders with guidance on readiness reporting. Commanders must be personally involved in the preparation of the monthly USR. This TC includes some major changes in its guidance for readiness reporting. Emphasis placed on proficiency rather than currency is a new standard for individual aviators, crews and units. Operational Readiness is an emerging concept that the Army staff is working to reflect the total cost of preparing a unit to go to war. Training strategies under revision will produce revised training models for inclusion in the CATS and Standard Army Training System (SATS).

1-11. PROTECT THE FORCE

The protection of aviation soldiers and their weapon systems is a way of life in the aviation business. An effective ATP that is well thought out and planned in conjunction with appropriate regulations and guidance is arguably the most important factor in any unit’s safety program when it is embraced by every soldier in the unit. Flying "by the book" does not hinder a unit's battle focus but will actually enhance it. Chapter 6 of this TC specifically addresses Risk Management. Annex A addresses Crew Coordination.

1-12. TRAIN TO SUSTAIN PROFICIENCY

Once individuals and units have trained to proficiency, leaders must structure collective and individual training plans at the frequency necessary for sustainment. Army units prepare to accomplish wartime missions by frequent sustainment training on critical tasks rather than by infrequent “peaking” to the appropriate level of wartime proficiency. Sustainment training enables crews and individuals to operate in the “band of excellence” described in FM 25-100 by appropriate repetitions of critical task training. Mission Training Plans and Aircrew Training Manuals are tools to help achieve and sustain collective, crew, and individual proficiency. The aviation task based Combined Arms Training Strategies (CATS) cross walks these tools to support the development of unit training plans.

1-13. STANDARDIZATION PROGRAM (AR 34-4)

Aviation forces routinely conduct combat, combat support, and combat service support missions as members of combined arms or joint task forces, requiring aviation commanders and their subordinate leadership to be well versed in the battle tasks across the battlefield operating systems (BOS) for the specific task force. In addition, the fielding of modern aircraft such as the AH-64D Apache, OH-58D (I) Kiowa Warrior, CH-47D Chinook, and UH-60L Blackhawk, while exponentially increasing the warfighting capabilities of aviation forces, have created operational and training environments which require individual and crew proficiencies in very sophisticated and sometimes unfamiliar flight environments. As such, an ATP, which focuses on aviator currency vice proficiency, will no longer satisfy aviation readiness requirements.

The aviation commander is responsible for his unit's standardization program. It is imperative that he includes standardization throughout his overall training strategy. The objectives of standardization are the improvement and sustainment of proficiency and readiness among soldiers and units throughout the Army. Standardization is accomplished through the universal application of approved practices and procedures. The commander's primary standardization staff members include subordinate commanders, unit standardization officers, and NCOs.

a. As a minimum, all Aircrew Training Programs will include:

(1) A clear description of all the benefits to be gained by standardizing.

(2) Clear objectives to be achieved.

(3) The procedures or actions to be standardized authoritatively spelled out.

(4) A specific plan for implementation and sustainment.

(5) An effective procedure for enforcement.

(6) Clearly delineated responsibilities.

1-14. COMMANDERS AS PCs AND EVALUATORS

One of the principal tenets of this manual is the involvement of commanders in the standardization program. Central to this issue are the following:

a. Commanders with the skill sets necessary to know what right looks like.

b. Commanders who have the skill sets necessary to know when an aviator should or should not be advanced in the RL progression program.

c. Commanders who fully understand that the ATP is their program.

CHAPTER 2

AIRCREW TRAINING PROGRAM

"…a total force trained and ready to fight, serving our nation at home and abroad; a strategic force capable of decisive victory, as the cornerstone of readiness, training remains the Army's most important peacetime mission." (General Gordon Sullivan)

2-1. AIRCREW TRAINING PROGRAM (ATP)

The Aircrew Training Program (ATP) has grown to include training those individual, crew and collective tasks necessary for the accomplishment of successful joint and combined operations defined in the Army Universal Task List (AUTL).

a. Applicability. The ATP applies to all Army aviators in operational flying positions and nonrated crew members in designated flying positions. It also applies to non-crewmembers who perform crew member duties per AR 600-106. Other individuals authorized to perform crew member duties in Army aircraft will comply with AR 95-1 or NGR (AR) 95-210 as applicable.

b. Commanders must use available publications such as ATMs, ARTEP/MTP publications, FM 1-140, FM 25-100, FM 25-101and the Combined Arms Training Strategy (CATS) to develop the unit's ATP. When developing the ATP, they must first evaluate the unit's METL to determine training requirements. Figure 2-1 shows the METL to ATP relationship. Additionally, they should analyze the unit's geographical area, probable employment roles, supported units' missions and past requirements. From this analysis, commanders develop supporting individual task lists. Commanders will establish a short and long range, training plan to ensure crews gain and maintain proficiency in unit collective tasks. Commanders must develop a training program for those crewmembers who fly an aircraft not currently covered by an ATM. They will follow the general guidelines and training concepts outlined in this publication and AR 95-1. The training program must be approved by the appropriate MACOM and USAAVNC. The task list developed for each position must establish minimum task iteration requirements IAW the appropriate ATM.

c. Units must have an Aircrew Training Program addressing specific requirements for the conduct of training, evaluation, assessment and program revision. Commanders should utilize echelon tailored scenarios and Situational Training Exercises (STX) to facilitate the development, execution and continual assessment of their training program. Scenarios and STXs for individual, crew and collective training must be mutually supportive and progressive in intensity and complexity. Effective individual and crew training programs form the foundation for an aviation battle focused training program. These programs produce combat ready crews, and become the basis for the unit's collective training program. Collective training must focus on combined arms/joint operations across the spectrum of the unit's METL. Limited resources, environmental restrictions, new and sophisticated aircraft mission equipment packages, and myriad contingency operations will all impact on the commander's ability to train and maintain proficiency at all levels. The key to success is proficient leadership at each level of command which understands the training process and their unique responsibilities, and a leadership which is given the resources and guidance to train to warfighting standards.

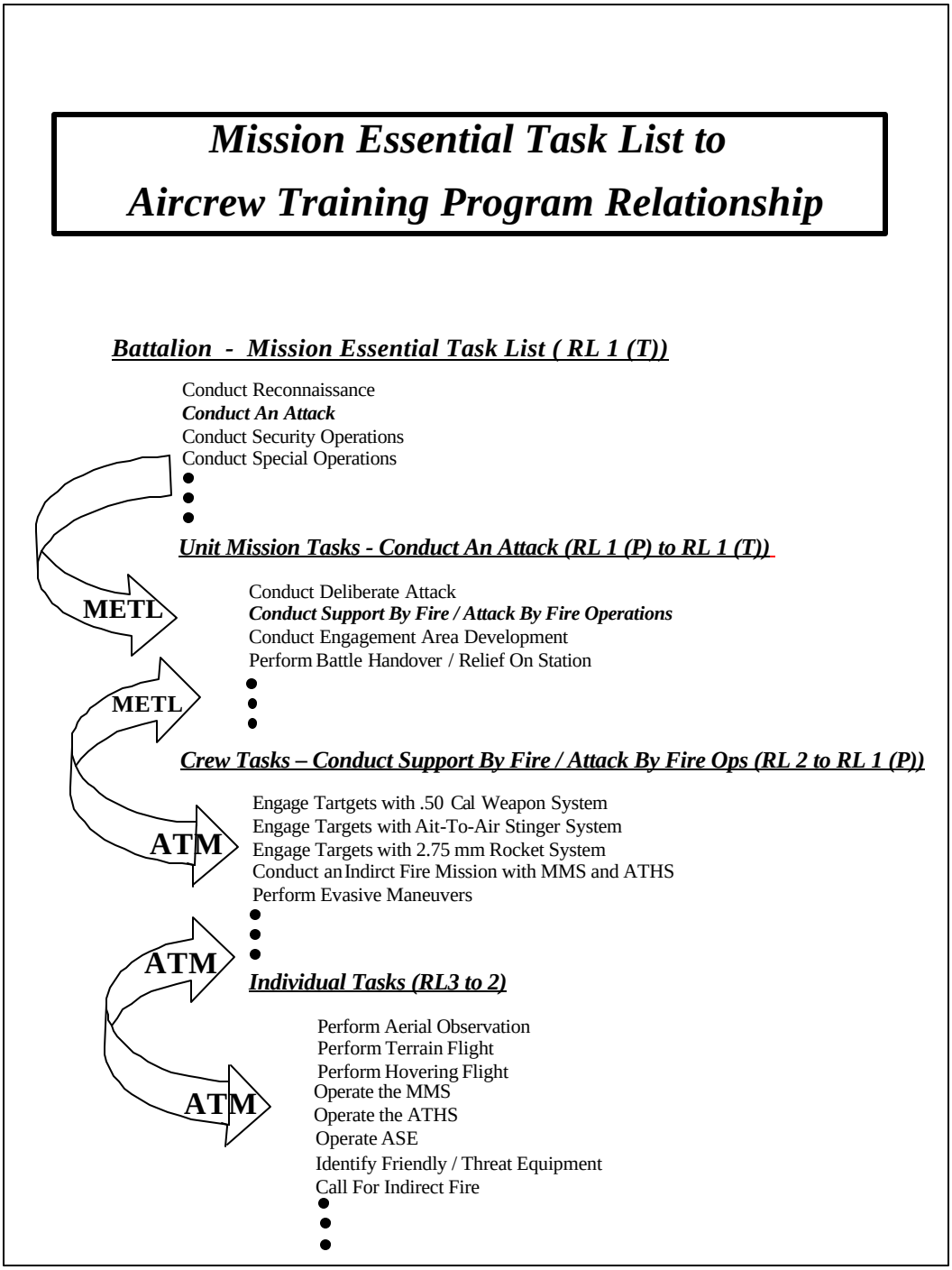

Figure 2-1. METL to ATP Relationship

2-2. RESPONSIBILITIES

a. The Brigade Commander is the senior trainer in the Brigade. He sets the standards personally and professionally in and out of the cockpit. Brigade Commanders plan, integrate and provide guidance and resources for battalion training. He is responsible for training Battalion Commanders and evaluating companies. He is responsible for the brigade safety and standardization programs and the Aircrew Training Program (ATP). He is also the Division or Corps Aviation Officer, where he supports the Division or Corps Commander's combined arms training goals and wartime mission-essential tasks. He integrates the total spectrum of aviation combat, combat support and combat service support in the division or corps battle space. The Brigade Commanders, like all aviation commanders, have subordinate leaders (officers and NCOs), staff officers, and standardization officers that are specifically trained to implement the ATP.

b. Aviation Battalion Commanders normally fight and lead from their designated aircraft. They should maintain the highest level of proficiency in the aircraft and be a Pilot-in-Command. They execute the ATP as the primary training manager for the battalion. They are responsible for training Company Commanders and evaluating platoons. As such the Battalion Commander focuses company training and integrates the company into combined arms training. The understanding and use of his subordinate leaders to support his execution of the standardization program in synchronization with the ATP is critical.

c. The Operations Officer/S3 is the commander's principal staff officer on matters of operations and training. The Operations Officer/S3 identifies training requirements and prepares and carries out training programs. The Operations Officer/S3 also determines and allocates training resources, plans and conducts training inspections, and compiles training records. Operations Officer/S3 should maintain a high level of proficiency in the aircraft and be a Pilot-in-Command. Operations Officer/S3 is the primary assistant to the commander in the execution of the ATP.

d. The Company/Troop Commander is a fighter, responsible for the integration of his company/troop into the combined arms fight. Like his commander, he must be highly proficient as an aviation leader and a Pilot-in-Command. He integrates the platoons and executes company training. He is responsible for training platoon leaders and evaluating individuals and crews. The platoon leaders and unit instructor pilots assist the commander in ensuring crews are properly trained.

e. The Platoon Leader is responsible for crew training, the basic building block for company training. Unit instructor pilots assist the platoon leaders in ensuring crews are properly trained. Platoon leaders are at a critical point in their aviation careers. Their challenge is to become proficient aviators, technically and tactically proficient aviation leaders, and ensure crews are proficient in tactics, techniques, and procedures outlined in the appropriate FMs and ATM. They are expected to develop proficiency in the aircraft and to attain the designation as a Pilot-in-Command.

f. Brigade/Battalion/Company Standardization Officers are responsible to assist the commander in developing and executing the unit Aircrew Training Program. They are technical and tactical experts, expected to train soldiers at every level within the command. A major responsibility is to provide quality control for the ATP via the Commander’s standardization program. Along with their responsibilities as the primary technical and tactical experts for the standardization program, they are responsible for the mentoring and professional education of all battalion crewmembers.

g. Brigade/Battalion/Company Maintenance Officers report directly to the commander as his primary advisor for all maintenance programs. The maintenance officer is responsible to assist the commander in developing and managing the units maintenance program. A major responsibility is the scheduling of aircraft using the maintenance flow chart to ensure not only mission completion, but also the most efficient use of maintenance assets.

h. Brigade/Battalion/Company Safety Officers report directly to the commander as his primary advisor for all safety programs. Safety officers are not just observers but are expected to be tactically and technically proficient, active participants in the ATP, and fly as a pilot in command. Commanders rely on their safety officers to monitor all aspects of the unit, and to provide feedback and advice, often from a different perspective than that of the commander.

i. The Brigade/Battalion Flight Surgeon is the commander's primary advisor on the health and welfare of unit members and their families. He monitors the training environment in order to ensure the mental and physical well being of unit aviators. The advent of highly sophisticated aircraft and ever increasing demands on the accomplishment of difficult missions has evolved into a highly stressful environment. The flight surgeon is responsible for providing sophisticated medical training, support and advice to individual aviators and commanders on the physiological implications of operating in these environments. Flight surgeons should have direct access to commanders at all levels.

j. Unit Trainers (UT) are aviators designated to instruct in areas of specialized training. They assist in unit training programs and achieve established training goals.

k. Master Gunner. The commander designates the master gunner to help with the administration of the unit helicopter gunnery program. The master gunner's duties are described more fully in FM 1-140.

l. Engineer Flight Test Pilots.

(1) Engineering flight test pilots perform duties in research and development aircraft or projects. They must meet all APART requirements and will receive continuation training as outlined in the appropriate ATM.

(2) Engineering flight test pilots also must satisfactorily complete tasks contained in a unit-developed, MACOM-approved task list and the annual hands-on performance test component of the APART. The commander will develop task lists for each aircraft category. Tasks accomplished in any aircraft within a category will count toward completion of the task list. As a minimum, the task list will include all base tasks listed in the appropriate ATM.

(3) In addition, engineering flight test pilots will fly 48 hours annually in their primary aircraft and 24 hours in their alternate aircraft. They must complete half of each requirement from the designated pilot station of the applicable aircraft.

m. Department of the Army Civilians, USAR Military Technicians, and Army National Guard Technicians. DACs and ARNG technicians must comply with the appropriate ATM for the initial aircraft qualification and annual standardization flight evaluation. ARNG technicians will comply with NGR (AR) 95-210. The flight evaluation is conducted during a designated quarter and includes only those tasks necessary to meet the requirements in the individual's job description. The flight evaluation for alternate or additional aircraft need not be conducted during the same quarter as that for the primary aircraft. In addition, USAR military technicians and ARNG technicians must:

(1) Satisfactorily complete the annual hands-on performance test components of the APART and also the operator's manual examination by the end of the designated quarter of the APART period.

(2) Comply with all ATM requirements for aircraft designated by their military commander or technician supervisor.

n. Pilots-in-Command are critical members of the unit ATP. The Pilot-in-Command is the unit's primary aircrew coordination and crew trainer. The PC is responsible for not only the safe operation of the aircraft and all occupants onboard, but he is responsible to ensure conduct of all operational and training aspects of a specific mission to a known standard. A critical aspect of a unit's PC program is to ensure that PCs are chosen who have the maturity to execute these responsibilities to the level of their proficiency.

o. Individual Aviators have the ultimate responsibility to ensure that they remain technically and tactically proficient at all assigned tasks, and that they are current and proficient. Given the resources to train, it is their responsibility to actively participate in all aspects of the ATP. Proficiency requires more than just participation in scheduled training events. Individuals must take advantage of every opportunity to become tactically and technically proficient aviators.

p. Nonrated crew member (NCM) are individuals other than aviators who perform duties aboard an aircraft that are essential to the operation of the aircraft. They work with aviators under the team concept; their duties are included in the corresponding ATM.

q. Non-crewmembers are individuals (technical inspectors, avionics repairmen, platoon sergeants, etc.) who perform duties that directly relate to the in flight mission of the aircraft but are not essential to the operation of the aircraft. Their duties cannot be performed by assigned crewmembers. Non-crewmembers do not perform crewmember duties except IAW AR 600-106. If the non-crewmember is not performing crew duties the commanders ATP does not apply. If the non-crewmember is performing crew duties IAW AR 600-106 then he will be fully integrated into the ATP and must meet all training requirements applicable to non rated crewmembers.

NOTE: AR 600-106 defines nonrated crew members and non-crewmembers.

2-3. AVIATOR PROFESSIONAL DEVELOPMENT

The PIs of today are the commanders, maintenance, safety, and standardization officers of the future. Aviators must establish personal goals that allow them to develop the skills and knowledge required to successfully move Army Aviation into the 21st Century. To this end, aviation commanders and aviators must look at intermediate skill positions as stepping stones to higher responsibility. The goal of every professional aviator is a logical parallel progression of abilities and responsibilities. As the aviator's tactical and technical skills evolve, so should his assigned and assumed levels of responsibilities. The professional aviators first targeted level of achievement should be the selection and designation as Pilot-in-Command. The professional aviator should then continue to develop his tactical and technical skills with the intent of designation as Flight Lead. Continued professional development of his aviation skills should lead to selection as an Air Mission Commander. These are not easy tasks, for the responsibility brought on by these designations are many, and require study and practice to achieve. Only by developing skilled aviation professionals, who understand the capabilities and the risks of Army Aviation operations can we acquire leaders and trainers that our demanding profession requires.

2-4. ATP PROGRESSION

AR 95-1 establishes procedures, policy, and responsibilities for crewmember training and standardization requirements, management of aviation resources, and the ATP. ATP execution follows the crawl, walk, run process described in FM 25-101. Leader supervision and participation at all levels is essential to the successful execution of the ATP. This TC provides commanders specific guidance on the execution of the ATP. Figure 2-2 provides an example of the hierarchy of Readiness Level (RL) progression. Individual aviators, crews and units are trained to proficiency via passage through a series of "training gates" which are determined by the training analysis process as outlined in FM 25-101. A major change is the addition of two collective training gates, RL1-Partially Trained (P) and RL1-Trained (T) which crewmembers must pass through to be designated fully combat ready. A major challenge and decision is the determination of the readiness level attainable and sustainable with available resources. Commanders must not sacrifice proficiency at any level in the training "crawl, walk, run" process.

a. RL 1(T). An aviator fully qualified and proficient in all of the units METL tasks. RL 1(T) aviators are in collective, crew and individual proficiency sustainment training.

b. RL 1(P). An aviator fully qualified and proficient in all the ATP required individual and crew tasks. RL 1(P) aviators are under going collective task training. RL 1(P) are in crew and individual proficiency sustainment training.

c. RL 2. An aviator fully qualified and proficient at all individual tasks undergoing crew training in mission tasks. RL 2 aviators are responsible for maintaining individual proficiency.

d. RL 3. An aviator undergoing individual task training.

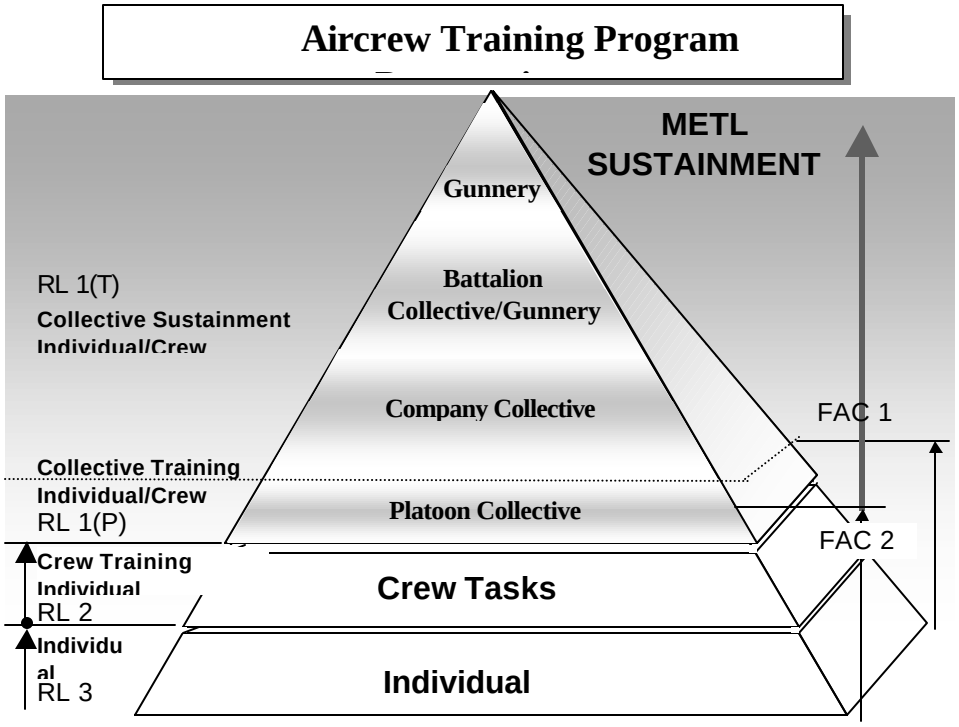

Figure 2-2. Hierarchy of RL Progression

2-5. FLIGHT ACTIVITY CATEGORIES (FAC)

All operational flying positions are designated by the commander as one of three flight activity categories: FAC 1, FAC 2, or FAC 3. Flight task requirements for each TOE or TDA position determines FAC designation. Flight Activity Categories do not apply to Department of the Army Civilians (DAC), or Non-Rated Crewmembers (NCM). Commanders will not change a FAC designation merely to reduce the individual or unit flying hour requirements.

a. FAC 1. FAC 1 duty positions require a high degree of proficiency in the tactical employment of the assigned aircraft. The higher semi-annual flying hour requirements of FAC 1 aviators reflect the requirement for proficiency in all METL/ATM tasks. All operational flying positions at company/troop level with assigned aircraft are designated FAC 1 positions (see exception under FAC 3). Commanders may designate any operational flying position FAC 1 consistent with mission requirements and resource constraints.

b. FAC 2. FAC 2 duty positions require the same level of individual and crew proficiency as FAC 1 duty positions, but less in company and battalion collective mission tasks. FAC 2 collective proficiency should be at a level sufficient to minimize train up to FAC 1 level. Commanders must judiciously select FAC 2 crew tasks to ensure maximum readiness within resource constraints. Commanders should not expect FAC 2 aviators to be immediately available to perform crew tasks that are not part of their training program.

c. FAC 3. The original intent in creating FAC 3 was to conserve flying hours for combat crews. The unexpected impact of this policy has been to create serious leader development challenges within the aviation force structure. FAC 3 designation may be applied to aviators assigned to TOE organizations above brigade level. As of the publication of this TC, designation of a position as FAC 3 is not authorized in a TOE brigade or lower organization, unless the aviator in the position has less than 12 months remaining on active duty. FAC 3 aviators are prohibited from performing crewmember duties in Army aircraft. To designate an aviator FAC 3, a simulator must be available for the aviator's use. The FAC 3 aviator must be qualified in the aircraft for which the simulator was developed. He must meet all flying hour, task iteration and evaluation requirements specified in the applicable ATM. FAC 3 aviators must complete an annual flight physical and operators manual written exam. The following aviators, regardless of assignment, except those granted an exception to policy by the MACOM, will not be designated FAC 3;

(1) Aviators who receive ACIP (fly-for-pay) IAW AR 600-105.

(2) Aviators in the first three years of their initial operational assignment.

2-6. ANNUAL PROFICIENCY AND READINESS TEST

a. Requirements. The APART measures a crewmember's individual and crew proficiency and readiness. It consists of a written examination and hands-on performance tests. RL 1(P) and RL 1(T) crew members must pass each component of the test during their APART period. The APART period is the three month period ending on the last day of the birth month. For ARNG crew members, the APART period may be scheduled during different quarters; they should refer to NGR 95-01 and 95-210. DACs and ARNG technicians must comply with the appropriate ATM for the initial aircraft qualification and annual standardization flight evaluation.

b. The commander will designate a specific quarter for each DAC's APART requirement. A crew member designated RL 1(P) or (T) at any time within this three month APART period must complete all APART requirements. Crew members receive credit for the aircraft operator's manual written examination and hands-on performance tests during RL training if they complete the tests within the three month APART period. Those crew members participating in RL 3 or RL 2 training programs are not subject to the APART unless they were removed from RL 1 because of a training deficiency. At the end of the training year, the commander must certify that each crew member has completed all APART requirements.

(1) Aircraft operator's manual written examination. This open book exam is prepared at the local level and consists of 50 objective questions on the information indicated below. The minimum passing score is 70 percent.

(a) Rated crew members. For RCMs, the exam covers the entire operator's manual. Aviators must complete this exam for each aircraft group they are required to operate. (AR 95-1 defines aircraft groups.)

(b) Nonrated crew members. For NCMs, the exam focuses on information the individual needs to know to perform crew duties. It covers aircraft systems and the operation and servicing of the aircraft and mission equipment. Commanders may reduce the number of questions for NCMs to no less than 50.

(2) Hands on performance tests. This component consists of oral and flight evaluations as outlined in the appropriate ATM. The hands on performance tests require evaluation of proficiency in several areas and may be separated into different flight periods. However, crew members must successfully complete all requirements during their APART period. The requirements in (b) and (c) below apply to RCMs only.

(a) Standardization flight evaluation. This evaluation is conducted in each aircraft group in which the crewmember performs duties. AR 95-1 describes aircraft series and groups. Required evaluation tasks are identified in the appropriate ATM, along with any other tasks the commander may designate as an evaluation task. Tasks will be evaluated IAW the Crew Task List (CTL) or as briefed by the commander. Aviators who complete a graduate POI at or approved by the USAAVNC during their APART period may credit those tasks that were evaluated during the end-of-stage, phase, or course evaluation toward the completion of this requirement.

(b) Instrument flight evaluation. An IE conducts this evaluation in the aviator's primary aircraft or in a compatible SFTS. However, in AH-1, AH-64, OH-6, and OH-58 aircraft, an IP or an SP qualified IAW AR 95-1 and designated by the commander may conduct the evaluation. All instrument evaluation tasks are identified in the appropriate ATM. Instrument evaluations in an alternate aircraft will be IAW AR 95-1. Instrument flight examiners must be evaluated annually by another IE in at least one category of aircraft in which they perform IE duties.

(c) MP/ME flight evaluation. An ME conducts this evaluation per the appropriate ATM. Aviators assigned to maintenance officer or maintenance technician positions or designated as an MP or ME, and are phase two graduates of the maintenance test pilot course must complete this evaluation during their APART period, and prior to being designated RL1. Aviators must complete an MP/ME flight evaluation in each additional/alternate aircraft for which they are designated MP/ME.

(d) Failures. Commanders will process crew members who fail to meet APART requirements according to AR 95-1.

2-7. PROFICIENCY FLIGHT EVALUATIONS

These evaluations will be conducted IAW AR 95-1 and the appropriate ATM. Night vision device currency evaluation tasks will be per the appropriate ATM. A proficiency flight evaluation may be administered as part of a commander’s evaluation, to reestablish currency or when an individual's proficiency is questioned by the commander. To reestablish currency, an IP may evaluate an IP or SP and an FI may evaluate an FI or SI.

2-8. NO-NOTICE EVALUATIONS.

Each commander must establish, in writing, a no-notice proficiency evaluation program. No-notice evaluations may be written, oral, in an aircraft, in a compatible simulator flight evaluation, or a combination thereof. This program measures the effectiveness of individual, crew and collective training. Results of no-notice evaluations should be used to tailor the unit's individual, crew and collective training programs.

2-9. MEDICAL FLIGHT EVALUATION

This evaluation is conducted IAW AR 95-1. The SP/IP, on the recommendation of the flight surgeon, will require the examinee to perform a series of tasks most affected by the examinee's disability. The evaluation should measure the examinee's potential to perform ATM tasks despite his disability. It should not be based on current proficiency.

a. After the examinee has completed the medical flight evaluation the evaluator will prepare a memorandum. The memorandum will include—

(1) A description of the environmental conditions under which the evaluation was conducted; for example, day, night, or overcast.

(2) A list of tasks performed during the evaluation.

(3) A general statement of the individual's ability to perform with the disability and the conditions under which he can perform.

b. The unit commander will then forward the memorandum and DA Forms 4507-R and DA Form 4507-1-R (if applicable) to Commander, US Army Aviation Center, ATTN: HSXY-AER, Fort Rucker, AL 36362-5333.

2-10. POSTACCIDENT FLIGHT EVALUATION

This evaluation is required by AR 95-1. The type and nature of the evaluation depend on the crew duties the aviator was performing at the time of the accident. Special emphasis will be placed on evaluating the task which was being performed at the time of the accident under similar conditions, if possible. After the evaluation, the SP/IP will debrief the examinee and make the appropriate entries on DA Form 7122-R.

2-11. CREW EVALUATIONS

a. Crew evaluations may be a continuous process during RL 1(P) crew training. The evaluator must evaluate the crew's ability to perform all required tasks in each mode required by the CTL.

b. Commanders or their designated representative must evaluate the crew during a collective mission to ensure that tasks are performed to standard. To observe a mission, the commander may use any combination of the methods given below, depending on assets and aircraft capabilities. These methods are—

(1) Observation from a crew or passenger seat.

(2) Observation from another aircraft.

(3) Video Tapes

(4) Simulators

c. Once the crew has demonstrated proficiency in all collective mission tasks, in all required modes of flight, the commander will certify the crew as RL 1(T). The commander will debrief the crew and use DA Form 7122-R provided at the back of this manual to record the evaluation results.

d. To remain RL1(T), crews must be evaluated annually on tasks selected by the Commander. If 12 months have elapsed since the last evaluation the crewmember will be designated RL1(P). No-notice evaluations are encouraged.

2-12. COMMANDER'S EVALUATION

The purpose of the commander's evaluation is to determine a crewmember's proficiency and corresponding readiness level. This evaluation consists of a flight records review and possibly a proficiency flight evaluation (PFE). The evaluation results in an initial readiness level designation. The commander and his designated representatives will complete the evaluation within 30 calendar days after the crewmember signs into the unit. The Reserve Component (RC) commander or his designated representative must complete the evaluation within 45 calendar days after the effective date of the crew member's operational flying status orders or the effective date of transfer (conditional release).

a. Records Review. The commander assisted by the unit SP/IP/SI/FI, will review the crew member's Individual Aviation Training Folder (IATF) and the Individual Flight Records Folder (IFRF) within 14 calendar days after the crew member signs into the unit. He will assess the individual's qualifications and tasks performed in his previous assignment with the tasks required by the assigned duty position. Based on this evaluation, the commander may designate an appropriate RL for the crewmember and document it on the individual's DA Form 7120-R, Commander's Task List.

b. Considerations.

(1) In order to be designated RL 1(P), based solely on a records check, an aviator must;

(a) Have completed all APART requirements.

(b) Have a current DA Form 4186, Medical Recommendation for Flying Duty.

(2) Crewmembers on their first assignment following IERW or AQC will not be designated RL 2 or RL1 (P) based solely on a records review. These crewmembers must receive a PFE for initial designations other than RL 3.

(3) A crewmember having not flown within the previous 180 days must be designated RL 3 for refresher training.

(4) A crewmember having flown within the past 180 days, but not the previous 60 days, may still require RL 3 refresher training. The commander will base his decision on a records check and a Proficiency Flight Evaluation (PFE).

(5) A crewmember, previously designated as an RL1(T) crewmember may be designated RL 1(T) based solely on a records check when reassigned within the same type battalion or brigade with matching METLs, supporting task lists and ATPs.

c. Proficiency Flight Evaluation. If the initial RL cannot be determined by the records review or if the commander desires, the crew member will undergo a proficiency flight evaluation. The PFE will consist of all individual tasks and those crew tasks selected by the commander. The results of the PFE will determine the crewmember's RL, designation, which will be documented on the individual's DA Form 7122-R. The local area orientation flights may be completed during the PFE.

d. Aircrew Training Program Requirements. The commander's ATP establishes minimum flying hour requirements, individual and collective tasks, and academic training to develop crews proficient in accomplishing the unit's METL. Crewmembers who fail to meet the minimum requirements in their primary, additional, or alternate aircraft will be processed IAW AR 95-1 (ARNG see NGR 95-1).

(1) Rated crewmembers (FAC 1 and FAC2).

(a) RL3 refresher training. During qualification/refresher training. To minimize training distracters, RCM designated RL 3 will have no unit additional duties during this phase of training. This provision does not apply to RCM regressed from RL 1(T) or RL 1(P). Unless otherwise designated by the unit commander, RCMs must complete the following requirements:

- RCM must complete annual flight physical by the end of the crewmember's birth month.
- No annual flying hour requirement unless designated by the commander.
- No individual task iteration requirement.
- No crew task iteration.
- No collective task iteration requirement.

(b) RL 2 crew training (To minimize training distracters, RCM designated RL2 will have no additional duties during this phase of training).

- RCM must complete annual flight physical by the end of the crewmember's birth month.
- Must maintain individual proficiency in all individual tasks and modes designated on the crewmember's CTL.
- No minimum annual flying hour requirement unless designated by the commander.
- No crew task iteration.
- No collective task iteration requirement.

(c) RL 1(P) crew collective training. Crewmembers designated RL 1(P) must complete the following ATP requirements established by the commander. RCM will be processed IAW AR 95-1 for failure to meet any of the following:

- Requirements designated by the commander on the CTL.
- Monthly, quarterly, semi-annual, and annual individual task iterations in all modes of flight designated by the commander on the CTL.
- Annual flight physical.
- Annual standardization flight evaluation.
- Annual instrument flight evaluation.
- Gunnery Table VIII IAW FM1-140 if required.
- Annual NVG flight evaluation if authorized to fly NVGs.
- Annual –10 written examination.
- Annual MP/ME flight evaluation if required.
- All other commander designated requirements, i.e., NBC, ASET, etc.

(d) RL 1(T) sustainment training. In addition to RL1(P) requirements, crewmembers designated RL1(T) must complete the following ATP requirements. RCM will be processed IAW AR 95-1 for failure to meet any of the following:

- Minimum annual flying hour requirement designated by the commander on the CTL.
- Monthly, quarterly, semi-annual, and annual individual task iterations in all modes of flight designated by the commander on the CTL.
- Monthly, quarterly, semi-annual, and annual collective task iterations as designated by the commander on the CTL.
- Annual flight physical.
- Annual standardization flight evaluation.
- Annual MP/ME flight evaluation if required.
- Annual instrument flight evaluation.
- Annual NVG flight evaluation (if RCM duty position is designated as NVG).
- Annual –10 written examination.

(2) Rated crewmembers (FAC 3). RCM designated FAC3 perform all their training in the simulator designated by the commander. FAC 3 RCMs must complete the following requirements.

- Annual flight physical.
- Annually, one iteration of each task on the CTL as designated by the commander.
- Annual instrument flight evaluation.
- Annual –10 written examination.

(3) Non-rated crewmembers (NCM).

(a) RL 3 qualification/refresher training. To minimize training distracters, NCMs designated RL 3 will have no unit additional duties during this phase of training. This provision does not apply to NCMs regressed from RL 1(T) or RL 1(P). Unless otherwise designated by the unit commander, NCMs must complete the following requirements:

- Annual flight physical.
- Minimum monthly flying hour requirements per AR 600-106 and FM 1-300.

(b) RL 2 crew training. Unless otherwise designated by the unit commander, NCMs must complete the following requirements:

- Annual flight physical
- Minimum monthly flying hour requirements per AR 600-106 and FM 1-300.
- Individual proficiency in individual tasks on the CTL.

(c) RL 1(P) crew collective training. NCMs designated RL 1(P) must complete the following ATP requirements established by the commander. Failure to complete these requirements may result in regression in RL status and/or loss of flight pay. NCM will be processed IAW AR 95-1 for failure to meet any of the following:

- Monthly, quarterly, semi-annual, and annual individual and crew task iterations in all modes of flight designated by the commander on the CTL.
- Annual flight physical.
- Minimum monthly flying hour requirements of AR 600-106

(d) RL 1(T) sustainment training. NCMs designated RL 1(T) must complete the following ATP requirements established by the commander. Failure to complete these requirements may result in regression in RL status and/or loss of flight pay. RCM will be processed IAW AR 95-1 for failure to meet any of the following:

- Monthly, quarterly, semi-annual, and annual Individual crew and collective task iterations in all modes of flight designated by the commander on the CTL.
- Monthly, quarterly, semi-annual, and annual collective task iterations as designated by the commander on the CTL.
- Annual flight physical.
- Minimum monthly flying hour requirements of AR 600-106

2-13. TRAINING GATES/RL PROGRESSION

a. General. Readiness level training begins with the development of proficiency at the individual level, and progresses through crew to collective proficiency. Readiness levels identify the training phase in which crewmembers are participating and measure crewmember readiness. Tasks required for crewmembers to progress from RL3 to RL1 (T) are listed on the individual aviator's CTL. The CTL requirements are battle-focused, task-based requirements derived from the unit's METL and the appropriate ATM. Task based Aviation CATS have been developed for each type of aviation unit to assist the commander in the development of individual CTL. In some cases, crewmembers may have more than one readiness level. For example, crewmembers who are RL1 (T) in their primary aircraft may be RL3 or RL2 in their alternate or additional aircraft while undergoing training in that aircraft. The commander will designate FIs/SIs to conduct NCM qualification, refresher and crew training. The commander may designate IPs/SPs to conduct NCM qualification, refresher and crew training.

b. Time Frames. Crewmembers have a maximum of 90 days to progress from one RL to the next.

(1) Crewmembers removed from RL 1(P/T) for a training deficiency and reclassified RL2 or RL3, must still meet all ATP requirements for RL 1(P/T).

(2) Active Army crewmembers have 90 consecutive days to progress from one RL to the next, with the exception of RL 1(P) to (T), which must be accomplished within 180 days. RC crewmembers have one year to progress. This excludes days lost because of;

- Temporary duty
- Deployment at a location where the crewmember is unable to fly.
- Medical or non-medical suspension from flight.
- Grounding of aircraft by Headquarters, Department of the Army.
- Leave approved by the unit commander

(3) If exclusion period exceeds 45 consecutive days, crewmembers must restart their current phase of RL progression. They have 90 consecutive days to progress to the next RL.

(4) When a crewmember has not progressed to the next RL within the time specified, the unit commander will take action IAW AR 95-1.

(5) Readiness levels do not apply to DACs or FAC 3 crewmembers.

(6) During RL progression, crewmembers must demonstrate proficiency in each mode of flight (day, night, NVD or NBC) as required by the ATM and the CTL for each task they will be required to perform. Performing the task at night or while using NVD may not be substituted for performing the task during the day.

(7) During RL progression, the evaluation may be continuous or it may be administered after the crewmember has completed training.

c. RL 3/Refresher Training. Crewmembers are designated RL3 when they are required to regain proficiency in all individual tasks as outlined in the appropriate ATM. RL3 designation includes aviators who are reporting to their first assignment after graduation from flight school, an aircraft qualification course, are reporting to a flying assignment following a non-flying assignment, or have been subject to extended grounding. They progress from RL 3 by demonstrating proficiency in all ATM individual tasks to an instructor pilot or instrument evaluator as appropriate, IAW AR 95-1. Commanders may regress an aviator to RL3 status for mitigating circumstances such as a lengthy illness, TDY, or failure to maintain proficiency. Commanders should consider Flight Evaluation Board (FEB) proceedings for aviators who demonstrate a pattern of failure to maintain currency or proficiency. Factors to consider during RL 3 progression;

- Aviator has a current DA Form 4186, Medical Recommendation for Flying, signed by the commander.
- Refresher and crew training may be conducted concurrently.
- Maximum use of simulators is encouraged.
- When aviators fail to progress to RL2, commanders must determine why, and take appropriate action IAW AR 95-1.
- Aircraft qualification and mission equipment training requirements are discussed in the appropriate ATM.
- The aviator, if required, must complete Tables III/IV per FM 1-140. If Tables III/IV are a live fire event and resources are not available during the RL progression period, then the tables must be completed no later than the unit's next live fire gunnery. Newly assigned aviators are not required to fire Tables III/IV if during the records check it is determined that the crewmember has qualified Table VIII within the preceding 12 months.

d. RL 2/Crew Training. RL 2 designated crewmembers begin training in the crew/additional tasks designated by the commander to support the unit's METL. Crewmembers progress from RL 2 to RL1(P) by demonstrating proficiency in all selected crew/additional tasks to an evaluator. Aviators assigned to a Maintenance Officer or Maintenance Technician position or designated as MP or ME on their DA Form, and are graduates of phase two of the maintenance test pilot course must demonstrate proficiency in the ATM required maintenance tasks prior to advancement to RL 1(P). The ATM designates those minimum crew tasks that must be trained and evaluated by an instructor. Local directive and SOPs may add tasks to be trained in addition to traditional flight tasks. Any addition training and/or evaluation tasks must be annotated on the crewmembers DA Form 7120-R. All crewmembers must complete a local area flight orientation before progressing to RL 1(P). Crewmembers designated RL 2 train in crew and additional tasks that prepare them to become a member of a battle rostered crew. Crew training requirements ensure the crewmember is prepared to begin mission training. Crewmembers designated RL 2 may fly with a PC and perform all tasks previously evaluated as "T" by an IP or SP. They may continue to train with a UT at all tasks previously evaluated as "P" by an IP or SP. Factors to consider during RL 2 progression;

- Crew and mission training can be conducted concurrently.
- Maximum use of simulators is encouraged.
- Battle rostering crews is encouraged.
- Individual proficiency sustainment begins at this point

e. Collective Training. Crewmembers who have completed RL 2 training have one additional training gate to complete prior to designation as fully combat mission ready (RL 1 (T)).

(1) RL1 (P) Collective/Mission Training. RL 1(P) aviators are those who have completed RL 2 training, demonstrating the proficiency to be a member of an aircrew. Aircrews begin to train to collective proficiency on unit collective mission tasks. As part of an aircrew, crewmembers train in mission tasks to gain proficiency in the conduct of the unit's unique METL requirements and the skills necessary to perform as part of the unit. When the commander or designated representative determines a crewmember is fully capable of performing all the unit's METL tasks, he will indicate so on the crewmembers DA Form 7122-R. The commander will base his determination on personal observation: by reviewing on board video tapes, observing simulation exercises, observing from a jump seat or a crew station, or by flying as the crewmember's wing man during live collective missions. Considerations during RL 1(P) progression are:

- The commander may not designate a crew as RL 1(T) unless the crew qualified on Gunnery Table VIII during the past 12 months.
- Crews authorized to fly NVGs must satisfy all NVG training requirements IAW the appropriate ATM.

(2) RL 1(T) Collective Mission Training. RL 1(T) crewmembers have demonstrated proficiency as aircrews at all designated METL tasks while operating in the collective environment. When a commander designates a crewmember as RL 1(T), collective sustainment training begins. Since combat ready aviation companies are the keys to success, the collective training plan must develop and sustain "T" companies across the brigade. Although there are battalion level requirements, collective proficiency is assessed at the company level and is the basis for the Aviation Battle Focused Training Program. Considerations for RL1 (T) designation are:

- Aviation companies cannot train themselves. The Battalion and Brigade Commanders train them.
- To successfully train to a "T" rating, iterations must be completed under prerequisite conditions on time and to standard.
- The key to success in training is balance and consistent flying as opposed to peaks and valleys. Balance means that collective training is not resourced at the expense of individual/crew training.
- Commanders must ensure that collective training is conducted with an uncooperative OPFOR, ASET-IV or TRTG, and Observer Controllers (OCs). Additionally, MILES/AGES should be used whenever possible.

- After completing collective training, crewmembers are proficient in all of the unit's missions and continue to train as a crew to sustain the skills and knowledge gained during collective training.
- Individual and crew proficiency training must also continue.
- The commander may not designate a crewmember RL 1(T) unless the crewmembers have qualified on Gunnery Table VIII during the past 12 months. To remain RL1 (T), a crew must qualify on Gunnery Table VIII annually.
- Annual gunnery requirements will be per FM 1-140.
- Gunnery continuation requirements apply to FAC 1 RL 1(T) aviators only.
- When there is a change in crew personnel, the commander will assess the crew status. It may be necessary to assess the new crew as "P" depending upon the readiness of the new crewmember. If so then the commander will provide the new crew with a training plan and the new crew will remain "P" until assessed by the commander as "T".

(3) Battle rostering. When battle rostering crews, commanders should consider the following;

- The individual aviator's aviation, flight and unit experience.
- The individual personalities and maturity.
- Prolonged battle rostering without consistent evaluation may lead to crew complacency, overconfidence, implicit coordination behaviors and nonstandard procedures.
- Battle rostering is most beneficial when used for short periods, such as during training exercises, operational deployments and gunnery training.

NOTE: Crewmembers regressed from RL 1(T) for a training deficiency must still meet all ATP requirements. They must demonstrate proficiency in only those tasks that were graded as unsatisfactory or deficient to either an instructor or the commander as appropriate.

2-14. METL TASK SUSTAINMENT

The final assessment of what it takes for a unit to be a "T", "P", or "U" for a specific METL task must be agreed upon and once completed, becomes a contract between the aviation Brigade Commander and the Division Commander. Commanders are encouraged to review the collective training sustainment requirements as outlined in the specific Aviation CATS for their type unit. Crewmember sustainment training requirements are met by completing the required number of iterations for each mission as listed in the Aviation CATS for that type unit. The CATS are designed to produce trained "T" companies, which will result in as a minimum, "P" battalions.

2-15. INDIVIDUAL AND COLLECTIVE TRAINING INTEGRATION

a. To achieve maximum training results from limited resources, planning must be detailed and flying hours must be dedicated to maintaining individual and crew proficiency as directed by the Aviation CATS. The integration of individual continuation training into collective training makes maximum use of every hour of flight time. Units must incorporate collective training into every element of the ATP.

b. The link between the collective mission-essential tasks and the individual tasks that support them is critical to the battle-focused training concept. The commander plans, prepares, executes, and evaluates training utilizing mission related scenarios based on the unit's METL. He selects critical battle tasks from the subordinate unit's METL and emphasizes the execution of these tasks during training and evaluation.

c. A reduction in the flying hour program will result in a decrement of a unit's METL with a corresponding impact on readiness. Aviation units are expensive; however, they are more expensive if not managed properly as the dollars expended on a poorly resourced program provide a very low return on investment. Eventually aviation units will have to operate in an environment of enemy radar and ADA. It takes time to develop the skills associated with NOE/terrain flight. To be ready, aviation units must have maximized every flying hour. An attack helicopter unit that flies along a route at altitude with no threat radar to challenge their skills, on to an objective without any enemy threat, engages simulated targets in the objective area, misses great training opportunities.

2-16. COMMANDER'S TASK LISTS (DA FORM 7120-R)

Commanders must evaluate each duty position to determine how it can best support the unit's METL. After designating each position FAC 1, FAC 2 or FAC 3, the commander develops a task list to support the duty position. The commander's task list is a written agreement between the commander and the crewmember. It specifies the hours, tasks, iterations and responsibilities the crewmember must meet during the training year. Crewmembers will not perform tasks not listed on the CTL, unless briefed by the commander on DA Form 5484. A separate DA Form 7120-R is required for each aircraft group in which the crewmember performs duties IAW AR 95-1.

a. Commanders designate primary, similar, and/or alternate aircraft for crewmembers. Commanders should not assign additional/alternate aircraft to aviators who fly AH-64, OH-58D, CH-47D UH-60, and C-26, unless they are FAC 2 performing MP/ME duties. When a crewmember must perform duties in more than one aircraft group, the commander designates an alternate/additional aircraft. Crewmembers must perform the appropriate task iteration and flying hour requirements IAW AR 95-1. APART requirements will be performed IAW AR 95-1.

(1) Primary aircraft. A primary aircraft is one designated by the commander or required by the TOE or TDA position.

(2) Similar aircraft. Similar aircraft are aircraft within the same group IAW AR 95-1. Similar aircraft may be included on the CTL IAW Appendix C.

(3) Additional aircraft. An additional aircraft is one in the same category as the primary aircraft.

(4) Alternate aircraft. An alternate aircraft is one in the category (fixed-wing or rotary-wing) opposite the primary aircraft.

b. Tasks are in the appropriate ATM. All tasks in the ATMs have a ten-digit TRADOC number. For ease of identification, the last four digits of this number are 1000- or 2000- series indicating they are either individual or crew tasks respectively. Commanders may develop additional tasks as needed to accomplish the unit's mission. The additional tasks must contain task number, task title, conditions, standards, descriptions, considerations and training/evaluation requirements. The commander assigns these tasks a 3000 series numbers and lists them separately on the CTL. An ATM task development model is included in Annex D.

2-17. TASK AND ITERATION REQUIREMENTS

Commanders must include, on their CTLs, the tasks in aided/unaided night flight required to accomplish the unit's mission. They also will specify annual NVD training, flying-hour, and simulation device requirements IAW the appropriate ATM. Crewmembers must meet the task and iteration requirements listed on the CTL. The commander determines any additional iterations needed based on crewmember proficiency.

a. Primary Aircraft. During his training year, each RL 1 crewmember must complete all iteration requirements on his CTL. The commander may increase these requirements as training and proficiency requirements dictate.

(1) MP/ME. If an aviator performs MP/ME duties, the maintenance test pilot tasks will be selected and iterations performed according to the appropriate ATM. Maintenance test flight tasks are listed in the appropriate ATM. Prior to performing MP/ME duties, the aviator will pass a maintenance test flight evaluation. Commanders are not authorized to delete any maintenance tasks. An aviator designated as MP or ME in an alternate or additional aircraft must meet the annual maintenance test flight task iteration and evaluation requirements per the appropriate ATM for each alternate and additional aircraft in which he performs duties.

(2) Proration. A crewmember's sustainment training requirements begin upon designation.

(a) Individual/Crew/Collective (RL 1(P)). Prorate crewmember's individual and crew sustainment training task iteration requirements when a crewmember is initially designated RL 1 in his primary aircraft.

- Monthly. Prorate all monthly iteration requirements to the next whole month. A crewmember incurs individual/crew sustainment requirements the month following designation as RL 1(P)
- Quarterly. Prorate quarterly requirements on whole months remaining in the quarter. Do not prorate quarterly requirements below two thirds. A crewmember with only one whole month remaining for a training quarter has no iteration requirement for that quarter. If two-thirds of his requirements is less than one or equal to .5 iteration, his iteration requirement is one.
- Semiannual. Base semi-annual proration on the number of whole months remaining in the semi-annual training period. Divide the number of whole months remaining by six and multiply that number times the iteration requirement. Round the result to the nearest whole number to get the crewmembers semi-annual iteration requirement.
- Annual. Base annual proration on the number of whole months remaining in the annual training period. Divide the number of whole months remaining by twelve and multiply that number times the iteration requirement. Round the result to the nearest whole number to get the crewmembers annual iteration requirement.

(b) Company/battalion collective (RL 1(T)). Prorate crewmember's company and battalion sustainment training task iteration requirements when a crewmember is initially designated RL 1(T) in his primary aircraft. Individual company and battalion requirements are 75% of the units MTP stated requirements.

- Monthly. Prorate all monthly iteration requirements to the next whole month. A crewmember incurs individual/crew sustainment requirements the month following designation as RL 1(P)
- Quarterly. Prorate quarterly requirements on whole months remaining in the quarter. Do not prorate quarterly requirements below two thirds. A crewmember with only one whole month remaining for a training quarter has no iteration requirement for that quarter. If two-thirds of his requirements is less than one or equal to .5 iteration, his iteration requirement is one.
- Semiannual. Base semi-annual proration on the number of whole months remaining in the semi-annual training period. Divide the number of whole months remaining by six and multiply that number times the iteration requirement. Round the result to the nearest whole number to get the crewmembers semi-annual iteration requirement.
- Annual. Base annual proration on the number of whole months remaining in the annual training period. Divide the number of whole months remaining by twelve and multiply that number times the iteration requirement. Round the result to the nearest whole number to get the crewmembers annual iteration requirement.
- Training deficiencies. A crewmember removed from RL 1(T) for a training deficiency must still meet all task iteration requirements.

b. Additional/Alternate Aircraft. As a minimum, commanders must require the crewmember to perform one iteration of each day individual task and each night individual task as listed in the appropriate ATM. Commanders will select the crew and additional tasks that they require the crewmember to perform. They also will designate each mode of flight (day, night, NVG or NBC) for the tasks that they select. If MP/ME duties are performed in the additional or alternate aircraft, all maintenance test flight tasks will be selected and the iterations performed per the appropriate ATM.

2-18. FLYING HOUR/SIMULATOR REQUIREMENTS

a. Minimum Hours. The minimum hours required for a crewmember's primary aircraft and simulator requirements are shown in the appropriate ATM. The hours indicated in the ATM should not be misconstrued as the definitive factor for determining aircrew proficiency. They are the minimum hours a crewmember can be expected to execute during proficiency sustainment training. Properly designed and executed individual, crew and collective STXs will ensure accomplishment of minimum requirements. Examples of Situational Training Exercises for each level of training, individual, crew and collective are in each ATM.

b. Flying-Hour/Simulator Reprogramming.

(1) A highly proficient FAC 1 crewmember may require fewer hours of training to sustain RL 1(T) proficiency than another crewmember. Considering this, commanders may reduce the semiannual flying-hour requirements for a FAC 1 crewmember, with greater than 1000 hours total flight time, up to 25 percent. When a crewmember's flying hours are reduced, commanders must also reduce a corresponding number of collective mission task iterations. The commander will not reduce the number of individual or crew task iterations. They can then reprogram these extra hours as task iterations to support other crewmember training requirements. Reprogramming does not affect the unit's annual flying-hour program. When commanders exercise the option to adjust requirements, they must clearly annotate the new semiannual minimums on each affected crewmember's task list. Commanders must annotate on the losing crewmembers 7120-R which crewmember received the hours. The gaining crewmember's 7120-R must reflect where the hours came from.

(a) Restrictions.

- Reduction can not be applied to more than 25% of the assigned FAC 1 crewmembers.
- Reduction can not be applied to crewmembers with less than 1000 hours total flight time.
- Reduction can not be applied to NVG hour requirements.

(2) Commanders may adjust FAC 1 or 2 crewmember semiannual ATM flying-hour and simulator requirements either before or during the first semiannual training period by as much as 15 percent. They may authorize the RCM to fly up to 65 percent of the annual requirements in one semiannual period but not less than 35 percent in the other semiannual period. This will not change the unit's annual FHP nor will it reduce a crewmember's annual flying-hour requirements. For example, if the minimums for the first semiannual period were designated as 35 percent and the flying hours exceeded 35 percent, the commander may reduce the second period by the excess amount so that the annual flying-hour requirement is not greater than shown in the appropriate ATM. However, the minimums for the second period may not be less than 35 percent of the annual requirement.

(3) A crewmember removed from RL 1(T) for a training deficiency must still meet all flying hour requirements.

(4) A crewmember has until the end of the training period to complete flying hour requirements. Flying hour requirements no longer apply to a crewmember scheduled for a PCS departure prior to the end of a designated training period.

NOTE: When commanders adjust the flying hours of non-rated crewmembers, the requirements of AR 600-106 apply.

c. Flying Hour/Simulator Proration. Prorated minimums will be one-sixth of semiannual requirements and/or one-twelfth of annual requirements for each full month remaining in the training period. Any previous flying hour/simulator requirements no longer apply. Flying hours/simulator minimums for a crew's primary aircraft may be prorated when he is:

(1) Newly designated RL 1 or FAC 3.

(2) Having his primary aircraft re-designated.

(3) Changing duty position, which involves a change in FAC level.

d. Determination That Flying Hours Have Been Met. Reduce flying hour minimums by one month for each thirty-day period the crewmember was unable to fly. Days in different categories may be added together for thirty-day totals. Concurrent days (for example, simultaneous medical suspension and TDY) will not be added together. At the end of the training period, add the total number of days the crewmember was unable to fly the aircraft/simulator because of:

(1) TDY or deployment at a location where the crewmember is unable to fly.

(2) Medical or non-medical suspension from flight.

(3) Grounding of aircraft by Headquarters, Department of the Army.

e. Flying-Hour Requirements for Additional/Alternate Aircraft. There are no minimum flying-hour requirements for additional or alternate aircraft. Commanders may designate a minimum flying-hour requirement to include simulator, if available. The crewmember must maintain currency IAW AR 95-1.

2-19. COMMANDER'S CERTIFICATION

Commanders must annually certify each crewmember's DA Form 759. Commander will annotate that the crewmember has or has not completed individual ATP requirements or qualifications. If a crewmember did not complete the requirements, the commander must include the reason. (The appropriate remarks are in FM 1-300.)

2-20. ATP FORMS AND RECORDS

The ATP records system provides commanders a comprehensive performance record on each crewmember in their unit. Examples of completed ATP forms with instructions are provided in Annex C.

a. Individual Aircrew Training Folder. Commanders will ensure that an IATF is prepared and maintained for each rated and non-rated crewmember in an operational flying position, whether assigned or attached to their unit.

b. DA Form 7120-R (Commander's Task List). Commanders use DA Form 7120-R and DA Forms 7120-1-R, 7120-2-R, 7120-3-R, 7120-4-R, 7120-5-R and 7120-6-R to inform crewmembers of their ATP requirements. DA Form 7120-R is also used to designate authorized flight duties and stations. A separate DA Form 7120-R series is required for each aircraft in which the crewmember performs duties.

c. DA Form 7120-1/2-R (Crewmember Requirements). Commanders use DA Form 7120-1-R to list all the crewmember evaluation requirements. DA Form 7120-2-R is a continuation of 7120-1-R if additional space is required. Commanders must ensure that all mandatory evaluation requirements for the crewmember are included.

d. DA Form 7120-3-R (Crewmember Mission Iteration Requirements). The commander uses DA Form 7120-3-R to list the crewmember's Individual, Crew and Platoon Training Exercise requirements. These requirements are in each individual aircraft ATM.

e. DA Form 7120-4-R (Crewmember Additional Training / Evaluation Requirements - Remarks and Certification). Use this form to record additional information relating to the crewmember's ATP and certify completion of ATP requirements.

f. DA Form 7120-5-R (Crewmember Company Collective Requirements).

g. DA Form 7120-6-R (Crewmember Battalion Collective Requirements).

h. DA Form 7122-R (Crewmember Training Record). A permanent record of significant events in an individual crewmember's aviation career. Because of the permanent nature of this document, exercise care when making entries. When the crewmember leaves the unit, forward all DA Forms 7122-R with the IATF. The losing unit is encouraged, but not required, to retain a photocopy of the DA Forms 7122-R after the crewmember departs.

i. DA Form 4507-R (Crewmember Grade Slip). This edition of DA Form 4507-R replaces all previous editions in individual ATMs. Use this form, along with DA Form 4507-1-R, and 4507-2-R for training programs that require a series of flights. These training programs include, but are not limited to, qualification, refresher and RL progression training.

CHAPTER 3

TRAINING REQUIREMENTS

3-1. FM 25-100/101 IMPLICATIONS FOR AVIATION UNITS

a. There is an old adage that says, “aviation units plan no faster than ground units”. The same is true for training. Aviation units train no faster than any other units. The “Principles of Training” established in FM 25-100 and 25-101 apply to all units and aviation units are clearly no exception.

(1) “Train to sustain proficiency”, or in other words, sustain proficiency within the “Band of Excellence” applies to all units. The aviator’s challenge comes, like all commanders, with often competing demands of keeping aviation maintenance within the band and sustaining training excellence. Aviation commanders must include the maintenance factor in their band of excellence. Individual, collective and leader proficiency increases during surges of aviation training such as FTXs, ARTEPs and CTC rotations. However, during these same periods of high training intensity, aircraft maintenance excellence, as measured by aircraft bank-time, will gradually decrease. Conversely, as training intensity slows, aircraft maintenance will increase.

(2) Well trained and maintained units are safe units. One way to ensure both training and aircraft maintenance factors sustain within the band of excellence is to ensure that aviation units properly plan, resource, and execute necessary recovery periods. This recovery period must be captured on the short and near-term training plans. It is time during which flight operations will focus on attaining needed proficiency and on individual and crew skills, while simultaneously attacking concentrated aircraft maintenance. During periods of intense training, aircraft accumulate deferred maintenance deficiencies. Therefore, the maintenance posture is low within the band of excellence, if not below the band at the conclusion of a major training exercise or gunnery density. The goal here is to keep both training and maintenance within the band of excellence and if one or the other dips below the band of excellence, to decrease the amount of time necessary to return to the band.

b. Another implication of FM 25-100/101 uniquely challenging aviation commanders is the implementation of the three-cycle time management system. Most divisional ground brigades plan their training within three training periods—green (prime time), amber (mission), and red (support). Unfortunately, most aviation brigades only have one battalion of each type aircraft.

(1) Aviation units must have a green training cycle to sustain proficiency. The single assault battalion only has two assault companies and one general support company. Consequently, three-level management is difficult, but not impossible to apply. Aviation commanders may have to modify this three-period system to find a way to implement their training plans. For example, it may be possible to combine two of the periods into one, amber (mission) and red (support). This allows the battalion commander to protect one company’s green training cycle to concentrate on company training. The other company performs the functions of the “mission” and “support” cycles.

(2) Additionally, during this green cycle, the aviation unit will need external resources from other divisional units to train. Aviation units require combined arms training with elements such as an infantry platoon or artillery section. This should be a training event resource and not part of a separate tasking for mission support from the infantry or artillery. For support missions, aviation units would assign qualified crews to execute these missions.

3-2. SITUATIONAL TRAINING EXERCISES

a. STXs are limited, mission-related exercises. They train crewmembers to execute one collective task or a group of related tasks and drills through practice. The terms “situational exercise” and “scenario” are used synonymously. Based on the unit METL, commanders may modify or expand STXs to meet special mission requirements. These exercises aid in the transition from individual task proficiency to collective task proficiency. The STX—

(1) Focuses training on weaknesses identified in previous training and evaluations.

(2) Provides repetitive training on parts of missions.

(3) Saves time by providing information needed to develop training.

(4) Allows the aviator, crew or unit to practice selected critical parts of the mission before rehearsing the entire mission.

b. Commanders should develop STXs as a training and ATP management tool. Pre-constructed STXs based on a thorough training needs analysis, provide bite-sized, short-term exercises that are central to sustainment training. STXs should permit simultaneous accomplishment of individual, crew, and collective tasks.

c. The following tasks will help the commander develop STXs that support METL requirements:

(1) Select the battle task to be performed. A battle task is a task that must be accomplished by a subordinate unit organization if the next higher headquarters is to accomplish a mission-essential task.

(2) Establish the conditions and standards for the selected battle task. Use the appropriate ATM/MTP.

(3) Develop a mission statement to support the battle task. One STX may have numerous mission statements.

(4) Identify the company METL task that supports the battle task. For example—

(a) Battle task: Conduct a deliberate attack.

(b) Supporting METL task: Conduct combat operations.

(5) Develop collective supporting tasks. Use MTP tasks.

(6) Apply time standards.

(7) Identify references/resources.

d. Situational training exercises should have realistic training objectives. The commander must ensure that the STXs do not become “canned” training flights. The training goal must be clearly defined and all participants in the training must understand the objectives.

e. ARTEP mission training plans give units a clear description of what and how to train to achieve wartime mission proficiency. They elaborate on wartime missions in terms of comprehensive training and evaluation outlines. They also provide exercise concepts and related training management aids to help field commanders plan and execute effective unit training. The applicable ARTEP mission-training plan gives examples for developing and using STXs.

3-3. COMBAT TRAINING CENTER PREPARATION

a. CTC rotations are one of our most valuable training tools when units have the opportunity to plan, prepare, execute, and assess/recover. Aviation units that deploy to a CTC more than twice a year may actually experience a drop in overall training and equipment readiness. This "law of diminishing returns" is most prevalent in assault and general support battalions. As all or a portion of the unit is returning from a CTC rotation and preparing to move into the assessment and recovery phase of the training cycle, another brigade task force in the division is preparing for its CTC train-up and requires support from the aviation community. The aviation unit now finds itself skipping or brushing over the assessment, recovery, and planning phases of the training cycle and moves directly back into the preparation and execution phases. Inadequate assessment, recovery, and planning causes individual and crew proficiency training to take a back seat to unit collective training. Additionally, aircraft bank time continues to be depleted and the unit focuses on the CTC METL as opposed to focusing on its wartime METL. It is for these reasons that a unit might actually find itself at a lower state of training and overall readiness at the conclusion of a subsequent rotation than it was after the completion of the first.

b. Environmental training for CTC rotations is critical. Home station training should replicate as closely as possible the actual CTC conditions. It is not possible to replicate the exact conditions of the CTC at home station; therefore, unit commanders should plan time for flight crews to spend time during force build up at the CTC to become proficient in the new environment. Additionally, commanders should take full advantage of flight simulator training to replicate the CTC conditions during their preparation.

c. AH-64s will have the MILES/AGES II system installed prior to departure from home station. Once installed, the attack battalion should conduct a MILES/AGES gunnery to ensure that the systems are operational and the crews are proficient in their gunnery skills with the MILES/AGES system.

3-4. LEADER INVOLVEMENT IN SIMULATORS

a. One of army aviation's most valuable training devices is the series of aircraft visual synthetic flight simulators. These devices are meant to decrease the cost of aviation training while allowing aviators to train on tasks too expensive and possibly too dangerous to routinely perform in the aircraft. Like all training, leaders must be involved. Some of the training that a crew can perform in a simulator is listed below.

- Train critical emergency procedures
- Builds individual and crew battle tasks
- Provides environment for ASE training
- Optimized for direct fire execution
- A method to increase weapons system proficiency
- Training for aviators having difficulty accomplishing certain tasks

3-5. BATTLE ROSTERING

a. Battle rostering is the designation of two or more individuals to routinely perform as a crew, and is the recommended method for crew selection. Commanders may battle roster crews at their discretion. Although battle rostering is no longer mandatory, the tangible benefits of this practice cannot be overlooked. Battle rostering increases combat readiness and performance by creating a stable atmosphere, where individual strengths are complemented, weaknesses are minimized and crew coordination is enhanced. Battle rostering takes the above considerations and creates a team that maximizes the combat performance characteristics of that crew and aircraft. Within the aircraft, the team creates an atmosphere that ensures optimal crew performance in any situation and a sense of pride and espirit de corps. Therefore, battle rostering is most beneficial when used in coordination with a solid aircrew coordination program in order to obtain maximum effect.

b. When battle rostering crews, commanders should consider the individual's aviation, flight and unit experience. They also should consider individual personalities and maturity. For example, a WO1 PC, experienced in the unit's mission, could be battle rostered with a newly assigned CW4. When there is a change in crew personnel, the commander must determine the RL status of the newly constituted crew and understand that additional training may be required.

3-6. GUNNERY

The helicopter gunnery program begins with individual qualification and progresses through crew qualification to unit collective training. Commanders will use FM 1-140 and DA Pam 350-58 to develop a progressive and continuous helicopter gunnery program. For planing purposes, gunnery requirements are discussed in more detail in Chapter 6. The following guidelines are not intended to imply that the commander should only conduct live-fire gunnery training once a year. He should conduct live-fire training as often as aircraft, ammunition, and range resources will allow.

a. Applicability. Helicopter gunnery applies to all units that operate aircraft with weapons systems.

b. Commander's Evaluation Tables. Tables III and IV are designed to evaluate the aviator's individual gunnery skills. Newly assigned aviators are not required to fire these tables if, upon a records check, it can be determined that the aviator has fired Table VIII within the last 12 months.

c. Gunnery Continuation Training.

(1) FAC 1. All FAC 1 RL 1(P/T) crews must successively complete annual gunnery per FM 1-140 and DA Pam 350-38.

(2) FAC 2. FAC 2 RL1 aviators must successfully complete live-fire gunnery per FM 1-140 and DA Pam 350-58. If the aviator cannot meet this requirement because of insufficient resources (as determined by the unit commander), he must satisfactorily complete gunnery exercises similar to Tables VII and VIII in a compatible simulator. OH-58D(I) aviators are currently exempt from this requirement (except Table V) pending fielding of a compatible simulator.

d. Gunnery Certification.

(1) The Army standard for active component is 85 percent of a company's assigned aircrews must be qualified on Table VII and have completed team/platoon (Table X) or (Table XII) tables within the past 12 months. The training program outlined in FM 1-140 will assist in attaining this standard. This training program matches the ammunition requirements in DA Pam 350-38, Standards in Weapon Training. The focus of the training company/troop is live-fire Table VIII. This qualification is based on the requirement for the crew to have certified the aircraft weapons on Table VI, received the correct type and amount of ammunition, and fired the table to standard on an objectively scored range. Deviations from the program as described in FM 1-140 may result in a crew that is unable to successfully integrate into the collective training provided in Tables IX through XII. If deviations are happening, it should only be with the knowledge and approval of the chain of command.

(2) After certification, an aviator and crew remains gunnery certified for 12 months (until the end of the following training year for RC). To retain gunnery certification, the aviator must satisfactorily complete gunnery crew qualification annually.

3-7. DOOR GUNNERY

a. Door gunners are an essential element in maintaining the defensive posture for utility and cargo helicopters and must be able to acquire and engage a variety of targets from varied flight profiles. The UH-60, CH-47D and UH-1 are all configured and mission-profiled to be equipped with door gunners. Helicopter door gunnery will be accomplished per FM 1-140, FM 23-67 and DA Pam 350-58. Deficiencies will be reported on the USR. DA Pam 350-58 mandates that 90 percent of the designated M60D gunners must have completed qualification according to FM 1-140 and Table X within the past 12 months. DA Pam 350-38 also establishes the resource requirement for two door gunners per aircraft assigned. An effective door gunnery program is progressive and consists of 10 training tables that progress in numerical order from individual marksmanship training to multi-ship live-fire. The following list presents some essential considerations to a successful door gunnery program, including detailed information on the required door gunnery tables.

- Basic Gunnery Tables I-IV are the initial M60 ground qualification
- Intermediate Gunnery- Tables V-VII, Door Gunnery Skills Training
- Advanced Gunnery- Tables IX and X consists of multi-ship gunnery, maximum recommended number of aircraft participating in Table X is five

b. Collective training can occur during the conduct of gunnery by developing tactical scenarios or Training Support Packages (TSP) for use during each gunnery or CALFEX; maximizing collective training opportunities. To make crews and units work together as a team, the commander must execute a well-planned, realistic, and consistent training program. The unit commander's training assessment and planning are essential to the success of a gunnery training program that will maximize combat ready crews.

3-8. ADDITIONAL TRAINING REQUIREMENTS

All aviation training requirements should be listed in the ATP and documented in the unit short and long-term training plans. There are however, areas of special interest, which have unique requirements. Training requirements directed by the commander will be documented on the DA Form 7120-3-R, Commander's Task List.

a. Aircraft Survivability Equipment (ASE)/Electronic Warfare (EW) Training. Aircraft Survivability Equipment (ASE)/ Electronic Warfare (EW) training is required for all units with ASE equipped aircraft and all units with a tactical mission. Units with equipment shortages will request adjustment to their TOEs to have the needed equipment added and, in addition, will report any shortages on their Unit Status Report (USR). ASE training will incorporate the requirements of the CJCS mandated Mode 4 tests.

(1) Requirements. Commanders will establish, in writing, an ASE/EW training program that reinforces the skills of the individual, crew and unit. The program must provide training that realistically reflects the full spectrum of electronic warfare, based on expected areas of deployment.

(2) Aircraft Survivability Equipment Trainers (ASET). Regularly scheduled use of ASET devices is recommended, if available.

(a) ASET AT. The ASET AT Interactive Courseware (ICW) program instructs U.S. Army aviators to effectively operate ASE, accurately interpret equipment indications, and efficiently employ the correct tactics and countermeasures to defeat the threat. ASET AT consists of two sections: tutorials and gaming scenarios for each aircraft. The commander will determine the tutorials and gaming scenarios, if any, for each FAC level. If the commander requires ASET AT training, he will specify annual training requirements for RCMs. The commander may also specify training requirements for NCMs.

(b) ASET III. ASET III is an embedded or appended system which causes actual aircraft ASE to display (simulated) threat indications the crew may encounter and allows them to perform necessary responses to defeat the threat. In effect, ASET III is an on-board EW range. ASET III is programmable to allow different ASE configurations, different threats, and terrain data to be used anywhere in the world. ASET III is being developed for the RC-12N, RAH-66, AH-64D, OH-58D(I), EH-60A, and CH-47D. When available, ASET III allows the commander to conduct realistic ASE/EW training, integrated into all live training scenarios, without the need for external assets.

(c) ASET IV. ASET IV is an array of mobile threat simulators intended to create a realistic threat environment for use in training U.S. Army aviation crews to operate and survive in such an environment. A typical ASET IV scenario consists of a number of ground-based threat emitters simulating various acquisition and tracking radar and optical trackers. Also simulated are surface-to-air missiles (SAMs) and other air defense weapons. The vehicle simulators are all mounted on carriers that allow off-road movement. Control is maintained at the command, control and communications (C3) vehicle. The various threat simulators within the ASET IV module currently consist of the following systems: two AAA's, two IR SAMs, and one RF SAM. The module can be expanded as future threat systems are characterized. The complement of simulators are deployed on a training range in a formation that creates the desired environment for the friendly aircraft. Added realism is provided to the engagement by the Multiple Integrated Laser Engagement System-Air Defense (MILES-AD), which gives the attackers and attacked a "Kill and be Killed" capability.

b. Aviation Life Support Equipment Training. Proper ALSE assets are critical factors in the aircrew member's ability to maintain battlefield mobility and survivability. Commanders must realize that ALSE maintenance is critical for the survivability of their crewmembers and possibly their aircraft. Commanders must include ALSE in their budget and funding for equipment, supplies, and repair parts must be properly managed to ensure a well maintained and continuous ALSE program. IAW AR 95-1 and other ALSE references:

(1) Commanders will ensure that personnel are equipped with ALSE appropriate for the mission, topography and climate along the proposed route of flight.

(2) Each crewmember will wear a survival vest with components as identified in TM55-1680-317-23P. Each crewmember will be equipped with a survival radio when available.

(3) At least once annually, commanders will ensure that all crewmembers receive training in the operation, use and operator maintenance of ALSE.

(4) Commanders must establish and equip ALSE maintenance shops, staffed by qualified ALSE maintenance personnel on minimum of a part time basis.

(5) All Army aircraft will carry survival kits for all crewmembers appropriate to the geographical areas in which flight will be conducted.

(6) All occupants in single-engine aircraft must wear life jackets when the aircraft is engaged in over-water flights beyond gliding distance of land. Multi-engine aircraft occupants must wear or have life preservers readily available. Aircraft making flights in excess of 30 minutes flying time or 100 nautical miles from the nearest shoreline must have survival kits and life rafts for all persons on board. (See TM 1-1500-204-23-1, table 11-4).

(7) ALSE accountability and control procedures must be as intense and accurate as those for any other piece of equipment in the Army. ALSE personnel should use DA Form 2062 for sub-hand receipting equipment to each individual crewmember.

c. Fratricide Prevention Training. Prevention training is required for all units with a tactical mission.

(1) Fratricide is the destruction of friendly personnel and/or equipment by friendly weapon systems. Causal factors include—

- Poor land navigation.
- Loss of communications.
- Position-reporting errors.
- Incorrect target identification.
- Incomplete planning and coordination.
- Equipment failure or improper procedures.

(2) The emergence of weapons that permit engagement of targets at extended distances and the increasing use of allied equipment by hostile nations increase the probability of fratricide. Units must conduct training on the prevention of fratricide along with other applicable training. This training should address the causal factors listed in (1) above.

d. Aeromedical Training. The commander will develop an aeromedical sustainment training program that meets the unit's specific needs. Considerations will be given to the unit's mission, area of operations, and environments that the unit may operate in. Because of the medical and technical nature of the aeromedical training program, commanders should involve their supporting flight surgeon in the program development. Commanders can obtain further assistance in developing a unit aeromedical sustainment training program from the Dean, US Army School of Aviation Medicine, ATTN: HSHA-AVN, Fort Rucker, AL. 36362. The aeromedical sustainment training program will be conducted IAW FM 1-301.

e. Low Pressure, High-Altitude Training. Low-pressure, high-altitude training will be per Appendix A, FM 1-301.

f. NBC Training. NBC flight training is the employment of aircraft under simulated NBC conditions. Conducting aviation operations while wearing protective gear presents special problems. The protective over garment and gloves restrict movement, and the protective mask restricts vision. Crewmembers can overcome these problems only by regular training, wearing the appropriate level of protective gear. This will enhance survivability and help to ensure mission completion when NBC weapons have been employed.

(1) The commander will evaluate his unit mission and determine if it includes operations in an NBC environment. If he determines that the unit mission may include operations in an NBC environment, he will train all FAC 1 and 2 RCMs and all NCMs to the level he expects to encounter based on the unit mission. If the commander determines a need for NBC training, he will conduct it as follows.

(a) The appropriate ATM outlines the minimum tasks the commander must select for training. He may also select other tasks associated with the unit's mission. The number of hours and iterations required to train each crewmember depend on the unit's mission and the commander's assessment of the unit's proficiency. The commander must decide how much training is needed for proficiency in unit NBC operations.

(b) Once crewmembers are trained, they can maintain proficiency through collective NBC flight training. (The ATMs contain more guidance on conducting NBC flight training.) The commander will establish task iteration requirements for NBC continuation training. He will establish NBC flying hour/evaluation requirements.

(2) While conducting NBC training in the aircraft, the commander will ensure that:

(a) Aircrews exercise caution when performing flight duties when the wet bulb globe temperature is above 75°F.

(b) A qualified and current aviator not wearing a protective mask is at one set of the flight controls except as outlined in AR 95-1.

(c) Emergency procedures training is not conducted while wearing MOPP gear.

(3) NBC Evaluations. If the commander has determined a need for NBC task proficiency, he will ensure the NBC training program and annual NBC evaluation requirements are clearly defined in his unit's ATP.

g. Environmental Training. Aviation units currently operating in an environment that would be described as unique (which includes, but is not limited to, desert, mountain, jungle, over-water, cold weather, saltwater, and high density altitude) and that deploy on a recurring basis or anticipate deployment to a unique environment, will develop an SOP or an annex to an SOP that—

(1) Explains the effects of that environment on the unit's flight operations.

(2) Establishes a comprehensive academic and flight training program that develops and sustains crewmember proficiency in that environment.

(3) Ensures that the training has been satisfactorily completed before the crewmember performs flight operations in the unique environment. This will include an evaluation by an IP, SP, FI or SI, as appropriate.

NOTE: Examples of unique environmental conditions are not limited to those described in FM 1-202.

h. US, Allied and Threat Equipment Identification. Commanders of units with a tactical mission will establish a training program for US, allied, and threat equipment identification. Training will focus on identifying major US, allied, and threat equipment expected to be in the area of operations.

i. Deck Landing Operations Training. Flight crewmembers must complete deck-landing qualification before they conduct naval deck landing missions. They also must be current according to the most recent Army/Navy deck landing operations memorandum of understanding.

(1) References

(2) FM 1-564 Shipboard Operations

(3) NWP 42 (rev F)

(a) NAWEC-ENG-7576 Shipboard Aviation Facilities Resume

(b) Joint Pub 3-04.1, Joint Tactics, Techniques and Procedures for Ship Helo Opns

3-9. LOCAL AREA ORIENTATION

Local area orientation is an important part of the training program for newly assigned crew members. It is divided into four general areas: aircrew information reading files, airfield operations and procedures, airfield layout and facilities, and a local area orientation flight. Where practical, units should conduct the local area orientation along with refresher and crew training. Each commander will ensure that crew members complete local area orientation before they progress to RL 1.

a. Aircrew Information Reading Files. Aviation units will establish aircrew information reading files. They will maintain these files as described below.

(1) The files should be divided into general and specific functional areas. They should contain reference material on aviation standardization, safety, and armament as well as regulations, directives, SOPs, and other appropriate publications. The front section of each general and specific file area should contain pertinent information received during the previous and current months.

(2) Units will post information as it is received. Crew members must read the files upon initial assignment to the unit; they must review them at least quarterly.

b. Airfield Operations and Procedures. The commander will ensure that crew members are given a tour of and a briefing on airfield operations facilities. The tour should include the flight planning room (location of maps, DOD FLIPs, flight plans, and other flight planning aids), airfield operations office, and flight dispatch office. If the weather facility is located on the airfield, it also should be part of the tour. The briefing should include the items listed below.

(1) Procedures for--

(a) Obtaining notices to airmen.

(b) Obtaining maps, charts, and DOD FLIPs.

(c) Filing local and cross-country flight plans.

(d) Ensuring operations security of the airfield.

(e) Obtaining and servicing ALSE.

(f) Obtaining weather information.

(g) Obtaining aeromedical evacuation assistance.

(h) Authorizing flights outside the local flying area.

(i) Obtaining range and restricted-area information.

(2) Information on local medical facilities, frequencies, and access phone numbers.

(3) A review of VFR and special VFR requirements for the airfield and local area.

(4) A review of IFR/instrument recovery procedures.

(5) A review of airspace in the local area.

(6) A review of the local area map, to include--

(a) NAVAIDs.

(b) Boundaries.

(c) Flight corridors.

(d) Reporting points.

(e) Airfield security.

(f) Noise abatement procedures.

(g) Prominent terrain features.

(h) Maintenance test flight areas.

(i) Obstacles or hazards to flight.

(j) Tactical training and range areas.

(k) Restricted areas and no-fly areas.

(l) Airfields, helipads, and frequently used LZs.

c. Airfield Layout and Facilities. The commander will ensure that crew members are given a tour of the airfield area. This tour should include--

(1) POL facilities.

(2) Aircraft parking areas.

(3) Crash rescue facilities.

(4) Obstacles or hazards to flight.

(5) NAVAIDs and control facilities.

(6) Simulation and procedural training devices.

(7) Organizational and support maintenance areas.

d. Local Area Orientation Flight. Before progressing to RL 1(P), crew members must receive a local area day and night orientation flight. Units may conduct this flight along with other training. The commander will determine which orientation items are required for the flight. Items peculiar to the local area or those that cannot be adequately covered during the ground portion will be pointed out, demonstrated, or discussed during the flight. The orientation flight should include familiarization with local--

(1) NAVAIDs.

(2) Boundaries.

(3) Flight corridors.

(4) Reporting points.

(5) Prominent terrain features.

(6) Noise abatement procedures.

(7) Maintenance test flight areas.

(8) Instrument recovery procedures.

(9) Restricted areas and no-fly areas.

(10) Tactical training and range areas.

(11) Airfields, helipads, and frequently used LZs.

(12) Obstacles or hazards to flight (HIRTA briefing).

NOTE: Crew members should receive a separate orientation flight of aerial gunnery ranges and procedures before participating in aerial gunnery training. MACOMs, particularly those operating near sensitive borders, may establish additional requirements or restrictions for local area orientations.

CHAPTER 4

AVIATION MAINTENANCE

Aviation assets are critical to the Army's ability to maintain battlefield mobility and quickly focus force on the enemy. Aviation maintenance is not only critical it is integral to the sustainment of this capability. To ensure that vital aviation assets remain ready to fight or train, a maintenance system has evolved through years of peacetime and combat operational experience. The challenge for the commander and the aviation maintenance manager is to ensure that the maintenance program provides the assets necessary to support operational and training needs, without compromising established safe maintenance standards. The key to success is to consistently make decisions that will result in successful mission accomplishment. The only way to do that in Army aviation is through a focused, highly effective maintenance program. Aviation maintenance is a complicated, sophisticated business that requires the constant support and participation of aviation commanders at every level. Mission readiness, training, safety and standardization all depend on the ability of a commander to ensure that his unit has a viable, effective maintenance program. And yet, that commander will not face a bigger challenge than trying to ensure that maintenance is given the visibility and priority commensurate with everything that requires the time and energy of his soldiers. Literally, everything will conflict with his ability to increase the "floor time" of his aviation maintenance personnel.

4-1. Objectives

The primary objective of Army aviation maintenance is to provide safe, mission-capable aircraft to satisfy all mission requirements. In peacetime, the Army's primary mission is training for combat. However, for aviation it is two-fold considering that a significant portion of its assets is utilized executing mission support operations. In many instances, peacetime training requirements for aviation assets are almost as stringent as wartime and combat requirements. The commander must fully comprehend the significance of aircraft availability if the unit is to accomplish its mission in both war and peace. This chapter is intended to provide commanders a common guide to aviation maintenance management when used in conjunction with the guidance provided in FM 1-500, Army Aviation Maintenance.

4-2. Review of the Basics

a. Concepts. A maintenance concept is a general expression of intent. For instance, how to maintain and support a series of systems. These concepts provide overall guidance, while policies provide specific guidance. Examples of aviation maintenance concepts are:

(1) Commanders are responsible for the maintenance of all equipment issued to their unit.

(2) Maintenance is performed in accordance with the technical manuals and maintenance allocation charts (MAC) at the lowest level consistent with the tactical situation, skills, time, repair parts, tools, and test equipment available and personnel on hand.

(3) Repairs are made on site, whenever possible.

(4) Repairs are made under the on-condition maintenance (OCM) concept at all levels of maintenance. AVIM and depot maintenance return an item to the user or to the supply system according to maintenance standards established for each item of equipment.

(5) Controlled exchange is used only as a last resort and only when expressly authorized by the Commander to obtain repair parts or assemblies to support maintenance of equipment. Controlled exchange is taking serviceable parts from one unserviceable but repairable end item to put on another unserviceable repairable end item in order to return the gaining end item to serviceable condition.

(a) Quality maintenance depends on preventive maintenance services and inspections.

(b) Aircraft maintenance inspections are oriented to the early detection of faults affecting safety of flight. All levels make maximum use of test equipment for diagnostic testing and fault isolation.

(c) Operator (crew chief) maintenance is constantly emphasized throughout the chain of command because it is key to the operational readiness of Army aircraft.

(d) Work is completed by the smallest possible number of personnel.

(e) Maintenance managers should establish standard procedures for doing jobs. As a result, soldiers need to consult supervisors only in unusual situations.

(f) Time standards are determined by averaging the amount of time required to perform identical tasks. Time standards should be reviewed regularly and revised as needed.

b. Policies. TM 1-1500-328-23 and DA Pam 738-751 contain specific maintenance policies that apply to all Army aircraft. Aviation maintenance managers at all levels should know and understand these policies.

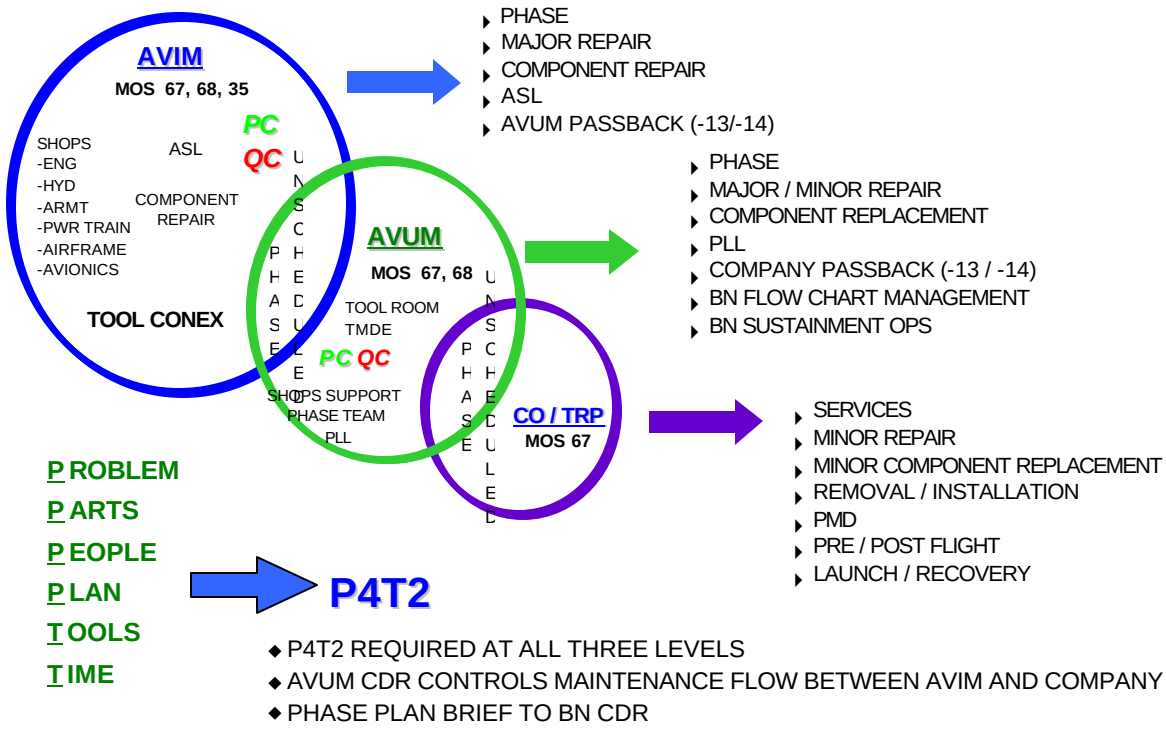

Figure 4-1.

4-3. Levels of Maintenance

There are three levels of aviation maintenance or organizational entities providing aircraft maintenance support to Army aircraft. The Aviation Unit Maintenance (AVUM) activity is the organic maintenance element of the operational unit and constitutes the first level of support. Aviation Intermediate Maintenance (AVIM) is the second level of support and supports a number of first level (AVUM) units. Depot is the third, and highest level of maintenance support and is generally a theater asset. Figure 4-1 depicts the three levels of aviation maintenance within the division, the overlapping missions and the P4T2 analysis acronym. A properly balanced, synchronized mission approach by all three levels is required to sustain a combat ready force.

a. Unit Level Maintenance.

(1) This is the lowest level of maintenance and the level where most aviation maintenance is accomplished. This organization is reasonably mobile and generally utilizes the unit's organic assets to provide forward support of aircraft when deployed. Equipment that does not lend itself to airmobility, which is a critical and inherent capability of the AVUM, is usually collocated at the supporting AVIM location.

(2) Battalion/Squadron units play an important role in maintenance management. Unit commanders are assigned the aircraft and have responsibility for the day-to-day maintenance, servicing, and operation of the aircraft. The crew chief is assigned to the company/troop and is typically assigned an aircraft within the organization. The Maintenance Officers within the company or troop should perform the maintenance management and coordination function utilizing assigned assets based on priority and availability, to maintain the unit aircraft, and coordinate with the AVUM Production Control Officer.

(3) The first priority of any aviation unit is preventive maintenance. Effective Daily, Periodic and Phase Inspections of the aircraft simplifies preventative maintenance. Just as important to mission accomplishment is making repairs and replacing malfunctioning or unserviceable parts and assemblies authorized by the Maintenance Allocation Chart (MAC). TM 1-1500-328-23 prescribes the authorized inspection procedures for individuals and activities operating Army aircraft. It describes each type of inspection and the intervals at which they will be performed. These intervals should not be exceeded. Thus the maintenance officer is not authorized to increase the inspection intervals or to decrease their scope except under emergency conditions by authority of the commanding officer.

b. Aviation Intermediate Maintenance.

(1) The Aviation Intermediate Maintenance activity is usually a division or higher level asset. This company is much larger than the AVUM and consists of heavy, complex or expensive assets where mobility is not the overriding issue. The density and type of tools, support equipment, test sets, and personnel available at the AVIM is what differentiates the AVIM from the AVUM. AVIM units are responsible for providing some component and sub-assembly maintenance, technical assistance and assistance to unit maintenance during surge activity. Close coordination between the AVIM and the AVUM units is critical to a successful maintenance program. The AVIM supports all assigned aviation units with special tools and personnel on a priority basis. It will also provide support to other units based upon availability of assets and need. Since the AVIM is not readily mobile, it is not deployed as far forward as the AVUM in wartime. The AVIM, however, is not a fixed base operation.

(2) The support functions of the AVIM range from overflow unit level maintenance support to limited depot level maintenance in some cases. Due to the types and number of tools concentrated at the AVIM level, higher levels of maintenance are performed at the AVIM. AVIMs also generally perform a significant amount of component repair and other types maintenance not supported by equipment available to the AVUM. The AVIM also maintains the Operational Float Aircraft (ORF). The purpose of having an ORF is to replace unserviceable aircraft that cannot be readily repaired in response to the supported unit's needs. ORF aircraft are exchanged on an item-for-item basis within the basic mission, design and series and based upon policy established by the MACOM commander.

c. Depot Level Maintenance. Depot maintenance is employed primarily in CONUS. However, it projects itself worldwide through maintenance support teams using organic assets, through contract programs, and through the Aviation Depot Maintenance Round-out Unit (ADMRU) program. The depot is a fixed base facility but can project itself as described above. The mission of depot maintenance is to overhaul, repair, modify, retrofit, and modernize aircraft systems and other systems as assigned. The Depot:

(1) Maintains a mobilization and training base to provide capability for mission support during any contingency.

(2) Receives, stores, inventories, preserves, packages issues, and ships parts and supplies associated with the total aeronautical depot maintenance mission.

(a) Provides maintenance support services for aeronautical equipment worldwide.

(b) Provides project development and design service for special projects as assigned.

(c) Exercises command control over assigned activities.

(d) Provides worldwide telephone hot line and on-site technical assistance in the inspection, maintenance, and repair of customer aircraft and engines.

(e) Provides integrated logistics support for aeronautical weapons systems through development and maintenance of technical publications.

d. Aviation Classification Repair Activity Depots (AVCRADs). The AVCRADs are fixed-base, CONUS depot facilities that mobilize in place. The four AVCRADs, located in Connecticut, Missouri, Mississippi, and California, mobilize in place, initially providing backup AVIM and limited depot support to the deploying FORSCOM aviation units within CONUS. As required, they shift to fully expand the Industrial Operations Command (IOC) aviation capability in order to provide depot level maintenance on critical aviation materiel for Army Materiel Command (AMC).

e. Aviation Depot Maintenance Round-out Unit (ADMRU) Program. The ADMRU element of the Logistical Support Element (LSE) mobilizes and deploys a tailored contingent of soldiers and equipment to staff and operate one or more in-theater aviation maintenance facilities. The mobilization mission of the ADMRU program and CONUS based Aviation Classification Repair Activity Depots (AVCRADs) is:

(1) To support deploying FORSCOM aviation units.

(2) To expand the mobilization capability of the CONUS based aviation depot system.

(3) To provide OCONUS capability for Army aviation depot maintenance in contingency operations.

(4) To identify and classify aviation depot receipts and stocks in storage.

(5) Upon mobilization, the ADMRU program rounds out the Industrial Operations Command (IOC) in AMC with the Mobilization AVCRAD Control Element (MACE). Once deployed, the LSE provides support from a fixed base. From this deployed facility, the LSE would project limited task organized support forward through the use of classification and maintenance support teams. ADMRU organic fixed-wing assets provide long distance air transportation within the theater.

4-4. AVUM/AVIM Maintenance Management Organization

The AVUM and AVIM organizations utilize identical functions and processes. Both have a maintenance management orientation. However, the AVUM is more attuned to keeping the battalion or squadron assets flyable. The AVIM, due to its support role and status as a division (or higher) level asset, is more heavily staffed and is task oriented to the maintenance management function. AVIMs support a variety of units and have widely fluctuating workloads generated by varying support requirements that the AVIM must satisfy. It is often said that the only difference between the AVIM and AVUM is the tool. This is perhaps a little simplistic but is accurate to the degree that the same level and types of personnel are available in both locations without exception. The tool, duration of the task, and specialized equipment typically differentiates between the AVUM and AVIM. These organizations share a common organizational structure. Some common elements of these organizations are described below:

a. Production Control. The Production Control (PC) section manages aircraft maintenance, maintenance personnel, aviation tool sets and the supply functions of the aviation unit. The organization of PC sections varies depending on the number and type of aircraft assigned to the unit; whether the unit's level of maintenance is AVUM, AVIM, or depot; the unit's mission, space available, terrain, and the environment.

b. Quality Control. Quality Control (QC) activities complement those of production control. Quality control management is involved with all phases of production control management to ensure maximum quality and safety while sustaining productivity. Properly designed quality control procedures ensure a high level of quality while streamlining inspection requirements and minimizing management involvement. To ensure complete objectivity, QC personnel are directly responsible to the unit commander.

c. Technical Inspection. Technical inspection of aircraft maintenance assures adherence to the standards and practices established by applicable publications. Inspections ensure that all applicable technical requirements have been followed. They also ensure that the maintenance shop is organized and performing quality work efficiently. Before performing an inspection, QC personnel review all the latest applicable reference material to make sure that the inspector applies the most current standards. Technical Inspectors are generally integrated as part of the QC section.

d. Aviation Supply. This section is critical to sustaining a consistent maintenance flow. The section closely monitors parts utilization, maintains inventory control, and ensures that appropriate stockage levels of bench stock, Prescribed Load List (PLL), and Authorized Stockage List (ASL) components are maintained and available for use.

4-5. Basic Elements of Aviation Maintenance Management

Aviation commanders must have a clear understanding that an aviation unit is a "Production" based organization, vice "Training" based unit. In an Armor unit, for instance, maintenance is a key function of that unit's activities, but tactical maneuver, fire control, and gunnery are the overriding priorities. It is a "Training" based unit. In Aviation, on the other hand, the Aviators require the tactical and gunnery training necessary to be proficient. For the rest of the unit maintenance is training and training is maintenance. This defines a "Production" based unit and its priority is to maintain its assets at the highest level of availability and readiness possible. Commanders, maintenance officers and other personnel in leadership positions have the responsibility to manage the assets that perform aircraft maintenance. The maintenance management function is a highly cognitive function, which is based on human experience.

a. Maintenance Management Plan.

(1) The most important, and often most under utilized element of the maintenance management process, is the maintenance management plan. These plans are developed in meetings and through coordination between leaders in the aircraft maintenance organization, and supporting units. Although these plans are not usually formalized, they are the strategies utilized to accomplish maintenance based on priority and are compiled based on the current status of the aircraft fleet being managed, the assets available for the near and long-term projected requirements and workload. The plan is infinitely variable and is usually modified on a daily basis, generally as a result of unscheduled maintenance or events which occur to the unit's aircraft during operational missions.

(2) Successful maintenance organizations plan very effectively as a team and execute their plan in a modular manner. Daily maintenance objectives are set and communicated. These daily objectives are sub-elements of a long-term plan, that may be oriented to a deployment schedule, an aircraft phase, or other "long-term" objectives. Maintenance managers then develop priorities. While objectives provide the direction, priorities drive the effort of successful organizations. Short-term and long-term priorities are carefully set, measured, and accomplished to achieve the long-term objective.

b. Coordination.

(1) The assets coordinated and focused on the maintenance issues include personnel, parts, tools and time. Each of these assets must be coordinated to ensure the appropriate assets are available at the right place, on the correct aircraft, and at the right time, to accomplish the mission. This process is very complex and relies on the coordination of many variables to ensure each asset is available and focused on the priority of the moment.

(2) Production control is the focal activity for maintenance planning. The Maintenance Officer, who controls the shops, supply, maintenance teams, tools and support equipment, is the decision authority for coordination, planning and control of aircraft maintenance. Supported units participate in this process to ensure that the priority of work is oriented to achieve their maintenance objective.

4-6. Aircraft Maintenance Program

a. Scheduled Preventive Maintenance. The aircraft preventive maintenance inspection system consists of a series of recurring inspections, checks, and services. The system is designed to provide a systematic examination of aircraft and aviation associated equipment during the item’s service life, and is designed to predict, prevent, detect and correct maintenance problems before they happen. It also requires specific maintenance actions, based on certain situations, conditions, or incidents. The following make up the Aircraft Preventive Maintenance System:

(1) Preventive Maintenance Daily (PMD). The PMD is a visual inspection that includes operational checks. The aircraft and associated equipment is checked to ensure satisfactory operation. PMD Inspection is required after the last flight of the mission day or before the first flight of the next mission day. It is also performed when directed by the appropriate aircraft maintenance manual.

(2) Preventive Maintenance Services (PMS). The PMS is also a periodic visual inspection and similar to a PMD, with the primary difference being when it is due. Usually a PMS is due every 10 flight hours or 14 days, whichever occurs first.

(3) Phase Maintenance (PM). The PM inspection is a thorough and searching examination of the aircraft and associated equipment. Removal of access plates, panels, screens, and some partial disassembly of the aircraft is required to complete the inspection. Phase maintenance inspections are due after a specified number of flying hours from the completion of the last PM inspection. The maintenance officer, in coordination with the commander, determines which aircraft will be scheduled into phase next. The work flow is established based on the required inspection tasks for that phase about 30 flying hours in advance to identify tasks requiring back shop support or additional resources. At this point all known replacement parts should be ordered (extensive coordination with DMMC will be required) and non-intrusive required inspections may commence. These actions will serve to reduce the time the aircraft is down. This lead time may be longer or shorter depending on the unit's operational tempo (OPTEMPO).

(4) Progressive Phase Maintenance (PPM). This inspection method resembles the PM method; however, it is a separate inspection method that must not be confused with the PM method. The unique nature of this inspection method provides for greater mission flexibility. The PPM inspection method consists of three interrelated parts:

(5) PPM inspection checklist. There are 15 checklists that make up the PPM system. Each checklist directs certain inspections on specific areas of the aircraft and contains a unique combination of requirements. No two checklists are exactly alike. When an aircraft enters into its PPM window, the appropriate PPM number checklist is placed in the aircraft logbook. A prescribed number of flight hours are allowed to complete the checklist.

(6) PMS inspection checklist. This is a periodic visual inspection conducted by the crew chief at a 20-flight hour/14-day time interval.

(7) DA Form 2408-18 (Equipment Inspection List). The PPM system tracks completion of the individual checklists and PMS inspections using the DA Form 2408-18. Maintenance actions are recorded as they are completed.

b. Special Recurring Inspections. Most aircraft are also subject to special recurring inspections. The recurring inspections occur at intervals that are not usually compatible with other scheduled preventive maintenance inspections. The special recurring inspection requirements are an important part of the preventive maintenance program. Three methods of scheduling are used for the different types of special recurring inspections:

(1) Flight hour based requirements. Flight hour based inspections are those inspections due after a specific number of flight hours. Example: filter replacements, re-torque, or oil samples.

(2) Calendar based requirements. Calendar based inspections are those inspections due after a calendar interval of days, months, or years. Example: fire extinguisher weight check, or aircraft inventory.

(3) Combined calendar and flight hour requirements. These inspections have a dual criteria of calendar days and flight hours. Inspections are due at the next flight hour or calendar time, whichever comes first. For example: a battery check required every 25 flight hours or every 30 days, whichever occurs first.

4-7. Other Maintenance Processes.

There are other maintenance processes that impact directly on aircraft and component availability.

a. Unscheduled Maintenance. Unscheduled maintenance is generated by premature or unexpected aircraft system failure or component malfunction. It may also be required to correct damage incurred from improper operation or combat. Because it is not predictable, units must be prepared to apply responsive corrective action on a priority basis. Unscheduled maintenance is primarily reactive and can have serious effects on the maintenance program.

b. Troubleshooting. Troubleshooting highly integrated and complex aviation and weapon systems is very demanding and is the most cognitive task in the aviation maintenance environment. It can be time consuming and often repetitive, but is critical to providing aircraft that are fully mission capable. Trouble shooting is conducted at every level of maintenance.

c. Deferred Maintenance. Minor faults noted during daily inspections that do not affect mission readiness or the safe operation of the aircraft may be deferred until the next scheduled inspection. However, unchecked deferred maintenance can accumulate until it represents a significant maintenance backlog of work. Deferred maintenance must be monitored regularly and aggressively managed, or it will contribute to extending phase maintenance down time.

d. External Maintenance Drivers. A number of external processes will affect assigned aircraft. These processes are initiated at levels above the unit based on problems discovered in the field, during depot maintenance, or after manufacture. The impact is generally felt in a variety of ways, ranging from policies restricting flight operations, to grounding of the aircraft until a specified inspection is conducted. Certain components may be identified to be replaced. Maintenance management of these external drivers is mostly reactive, and is often adversely affected by the availability of replacement parts. A compliance directive may or may not provide some flexibility in the time to comply. In most cases, additional reports concerning compliance or status are required.

e. Controlled Substitution. Controlled substitution is a practice that has the direct effect of doubling the maintenance work and, as a result, has a significant impact on maintenance management. This process must be tightly controlled and should never be delegated lower than battalion commander level. The process, when utilized, also increases the probability of induced damage to aircraft and aircraft parts during the removal of parts from one aircraft for re-installation on another.

4-8. Aviation Maintenance Management Techniques

The challenge that each aviation commander faces in sustaining his force is how to balance aviation operations and aircraft maintenance. Simply put, to be effective a battalion and brigade commander must have an organization, which can sustain the "launch-recovery-launch again" of his combat formations. Within a division, the three aviation maintenance organizations, company/troop maintenance, AVUM, and AVIM, are designed to sustain the division's aircraft and aviation subsystems. A balanced and synchronized mission approach by all three organizations is required to sustain a combat ready aviation force.

a. Planning.

b. Senior aviation commanders must train their subordinate commanders in aviation maintenance just as they do in training for combat operations. These commanders must have a thorough understanding of the aviation maintenance organizations and the functions required to sustain battalion and brigade operations.

c. Aviation maintenance must be planned and executed aggressively as mission training. The commander and his maintenance officer analyze the specified and implied maintenance tasks, METT-T analysis, receive the commander's guidance, develop courses of action and execute it. The same process as required for combat operations.

d. Problems, Parts, People, Plan, Tools, and Time (P4T2) is a METT-T like methodology for aviation commanders and staffs to conduct analysis of aviation maintenance operations

(1) A good method for a commander to check his maintenance program is to randomly select DA Forms 2408-13, 2408-13-1 and 2408-14 and walk these forms through the AVUM, cross-checking parts order/requisition dates, deferred maintenance status, etc. This process will confirm proper maintenance management processes are being accomplished at the AVUM and AVIM levels.

(2) Another method to reinforce the importance a commander places on effective, efficient maintenance is to visit the Production Control office regularly, even daily. Review the progress of work, unscheduled maintenance, parts availability, and aircraft flow. “Walk the floor” with your leadership. This teaches maintenance management to junior officers and gets the unit leadership involved with maintenance operations. Assigning each aircraft to a junior officer to “oversee” is also a proven maintenance training technique. Subordinate leaders will soon understand the emphasis and direct their priorities accordingly.

(3) Battalion and Brigade Commanders should relate and brief individual/crew/collective training to maintenance training and the his training priorities relative to weapons qualification, physical training, NBC, etc during the Quarterly Training Briefings (QTBs).

(4) Maximize use of contractor maintenance. AMCOM logistics and readiness personnel can help. Commanders must understand their systems and organization capabilities.

(5) Brigade Commanders as the Division/Corps Aviation Officer should work closely with the G1 to facilitate management of aviation MOSs.

e. Execution. The phrase "train as you are going to fight" has to be applied to aviation maintenance. Restated, aviation commanders "maintain (in peacetime) as they are going to sustain (in combat)". Aviation maintenance operations are conducted day in and day out at the unit's hangers in the same manner as sustainment operations are carried out when the unit is at a Combined Arms Training Center (CTC) or in combat. Example: In combat an assault or attack company would not attempt to conduct a phase inspection or major repair of one of their aircraft. The unit does not have the people, tools, time or the facilities required to do the inspection or repair while simultaneously conducting combat operations. What the unit is required to do with its combat assets at a CTC or in combat is to "launch, recover, and launch again" in support of the battalion/brigade commander's operational requirements. The AVUM and AVIM possess the capability to successfully perform that phase or repair, therefore it should rightly be "passed back" from the unit. Aviation commanders must conduct operations at home station in the same manner as they are going to sustain operations in combat.

f. Phase Maintenance.

(1) Not properly leveraging the capabilities at each level of aviation maintenance within the division will have a negative effect on the commander's ability to meet the unit's operational requirements. In combat, this will adversely affect the unit's ability to successively launch combat assets in support of the higher commander's tactical plan.

(2) One of the biggest factors impacting an aviation commander's ability to conduct the required crew and collective training is phase maintenance. An AVUM can realistically conduct one phase at a time and still sustain the battalion's training plan. If the unit's OPTEMPO will cause the AVUM to exceed its phase capability it must be in synch with the division's AVIM so that the AVIM can receive pass-back phases and other major repairs from the AVUM. If this does not happen, the AVUM will enter a descending spiral of conducting phases, backlogging or deferring work and will not be able to sustain the unit's operational requirements. This leaves the aviation companies/troops to fend for themselves on major repairs, further detracting from the unit's mission to launch and recover its assets during training as they must do in combat.

(3) Understanding the demand requirements on the maintenance program is critical to mission success. Example: To support 37 crews with a Flying Hour Program (FHP) of 14.7 aircraft hours/month per crew, the annual FHP would be 6527 hours. With 30 aircraft in the fleet and a phase interval of 500 hours, the unit should expect to do 14 phases annually, or slightly more than one per month.

(4) Bank time is a direct indicator of an aviation unit's OPTEMPO. As seen in Figure 4-2 the unit example has negative bank time. Though not excessive, it is an indicator that Aircraft 703 has been in phase too long, and with the unit's OPTEMPO, priority on scheduled maintenance needs to be increased. This is particularly true since Aircraft 505 is less than 50 hours from entering phase and the phase on Aircraft 703 is only 65% complete. Additionally, attention must be paid to the aircraft in the center of the flow which are somewhat over flown and those at the top of the flow which are bunched together and somewhat under flown. This is a scheduling problem and the type of information that the commander must insist on seeing daily.

Tail #	Plan Hours	Actual Hours
458	500.0	461.1
769	464.3	412.8
634	428.6	395.4
469	392.9	378.2
512	357.2	347.8
504	321.5	325.3
702	285.8	297.2
816	250.0	254.9
524	214.3	226.5
338	178.6	189.7
633	142.9	147.2
508	107.2	112.1
456	71.5	88.9
505	35.7	47.2
703	0.0	0.0
Flow	3750.5	3684.3
Bank Time		-66.2

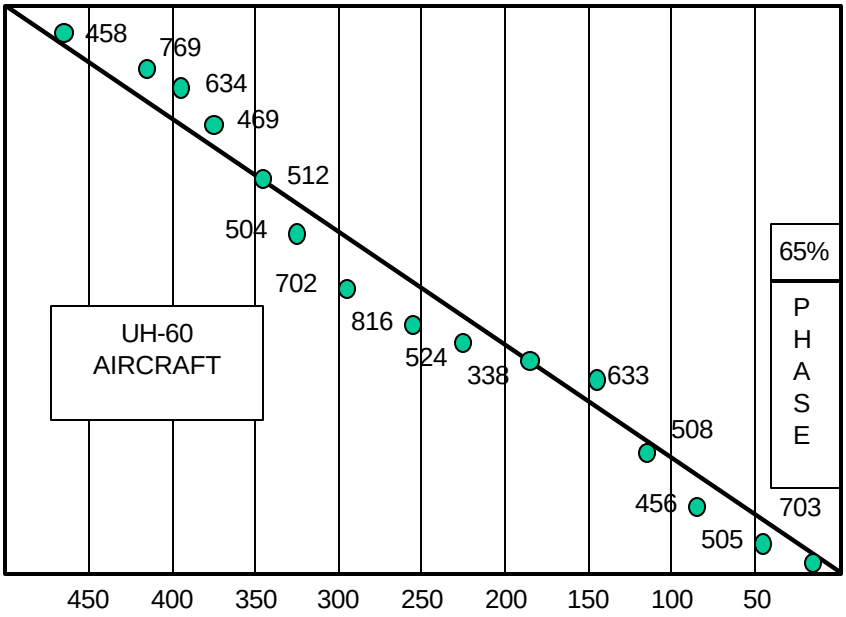

Figure 4-2. Aircraft Flow Chart

(5) Phases that take too long to complete only exacerbate the impact on “maintain as you are going to sustain” goal. The division must have phase completion goals. All units including AVIMs and Depots must be held to these same completion goals. These standards should require that an AH-64 or UH-60 phase to be completed in 30 calendar days (not including work stoppages awaiting parts, NMCS time). A CH-47 phase should be completed in 45 calendar days. To meet these standards, the company/ troop, the AVUM and AVIM must conduct a thorough P4T2 analysis, receive the commander's guidance, develop COAs, war game the COAs, write the plan, brief the plan, rehearse and execute the plan, and conduct a thorough After Action Review (AAR) after the phase is complete. It is essential that the AVIM and AVUMs subscribe to the same goals and that these goals are briefed as a part of the QTB. The aviation brigade/battalion commander and DISCOM commander must be engaged throughout the entire operation, just as they are throughout the entire METT-T process and execution of combat operations.

(6) Commanders, leaders, maintenance officers and other supervisory personnel have the responsibility to manage all assets that perform aircraft maintenance. The maintenance management function is a highly cognitive function, and is based on practical experience.

(7) Commanders play a critical role in maintenance management. Unit commanders are assigned the aircraft and have responsibility for their day-to-day maintenance, servicing, and operation. The Company Maintenance Officer / Test pilot in conjunction with the Platoon Sergeant within the company or troop usually perform the maintenance management and coordination functions necessary to maintain the unit's aircraft based on priority and availability utilizing assigned assets, and though coordination with the AVUM Production Control. The crew chief is assigned to the company/troop and typically maintains an aircraft within the organization.

4-9. Operational Readiness (OR) Rates.

a. The DA standard for Fully Mission Capable (FMC) aircraft Operational Readiness (OR) rates is derived from OPTEMPO, numbers and types of aircraft and people assigned according to the TOE, and an expected percentage of the assigned man-weeks spent on aircraft maintenance. The general objective of aircraft readiness is to achieve a 75 percent rate FMC at all times.

b. If a unit is currently meeting DA standards, has sufficient aircraft to support its mission, and is able to meet launch requirements, there is little cost benefit in attempting to raise the OR rate above the DA standard. There may be times when the commander makes a conscious decision to perform phase maintenance early in order to posture the unit for a known surge period. This will affect the OR rate and the bank time. When this is required, it is essential that the Division Commander is informed and agrees to the necessity. If the unit has difficulty in regularly supporting mission requirements or is unable to meet operational requirements, then the benefit of raising the OR rate will at least meet or exceed the increase in operational costs. Some examples of options to increase the OR rate are:

(1) Consolidate maintenance resources (personnel, equipment, and facilities). There is some synergy to be gained by locating like type units in close proximity to the supporting AVIM. If this requires hangar moves, a well planned, properly executed move could pay big dividends in the long run.

(2) Flight Scheduling. Scheduling aircraft to fly through the Production Control office at least 72 hours in advance allows maintainers in the flight platoons and AVUM to plan their scheduled aircraft maintenance. In too many cases, platoon sergeants find out that an aircraft is going to fly just about the time he has gathered the necessary tools, parts, and people to accomplish some scheduled maintenance on the aircraft.

(3) Increase "floor hours" of the Aircraft Maintainers. There are numerous ways to increase the average man-weeks of work being performed by aircraft maintainers. For example:

(a) AVIM Personnel. In some cases, the AVIM commander may have maintainers that are not currently scheduled to perform maintenance duties. They could be formed into contact teams and provided to the battalion when requested.

(b) Additional Duties/Appointments. Many aviation commanders already excuse the members of their aircraft phase teams from duty. By doing so, they gain uninterrupted use of those soldiers during a phase. Additionally, requiring all aviation maintenance personnel to schedule their appointments (medical, dental, administrative, etc.) during specified times; commanders can ensure that all of the right people are available during prime maintenance periods. Tasking maintenance personnel for things unrelated to their MOS is disruptive and should be discouraged unless coordinated though the maintenance office, particularly short notice tasking.

(c) Facilities Availability. What are the people who are available actually doing in a week? For example: Having sufficient showers for use after morning physical training (PT) and a convenient dining facility available, a unit could gain about 5 hours of floor time per soldier per week. Additionally with a convenient dining facility available, soldiers will work much closer to lunchtime before they begin putting away their tools and equipment. This could gain an additional 2 to 2 1/2 hours a week per soldier.

(d) Fenced Training Time. Uniform non-maintenance activities, such as "Sergeant's Time" training, and "Eagle Time" (many divisions have established days when soldiers are released early) should be consistent for all units involved in aircraft maintenance. This should not only include aviation units, but also the DISCOM, the DMMC, and the receiving warehouse for parts request processing and pick-up. An integral part of an aviation unit's wartime mission is aircraft maintenance; therefore maintenance tasks should be considered appropriate topics for "Sergeants Time" type training days.

(e) Unserviceable Equipment. Unserviceable material beyond the maintenance capability of a unit to repair is promptly reported or delivered to the next higher maintenance level.

(f) Equipment Evacuation. All maintenance within the capability of an organization is done, when possible, before evacuation of repairable items to the next higher maintenance level. When required, higher levels perform the maintenance of lower levels as displaced or pass-back maintenance.

(g) Maintenance Meetings. Battalion maintenance meetings should be conducted at least weekly and chaired by the battalion commander. In addition to the weekly maintenance meeting the maintenance officer should brief the battalion commander each day on the Unit Daily Aircraft Status Report. Company commanders should also attended these daily briefings so all understand the battalion commander's priorities and maintenance plan.

4-10. CONCLUSION

a. Aviation assets are a high cost, high visibility entity in any organization. It is incumbent therefore to ensure that the availability and mission readiness of these assets is maintained to standard at all times. Flying hour dollars are aviation maintenance dollars. Aviation leaders must manage the dollars as well as the hours. Aviation Maintenance is a hands-on labor and management intensive exercise that requires effective and continuous leadership involvement at all levels, and will require close coordination with the CG, ADC(S) and the Chief of Staff.

b. In aviation, maintenance is not just a training schedule activity; it is a way of life. It is critical to the safety of the crews and those who utilize aviation assets. It is budgetary management at its most intense. It is maintaining the availability of a "national asset" for employment if called. Furthermore, aviation maintenance is the bedrock of an efficient, effective training program for the utilization of these assets. Aircraft that cannot perform their missions, weapons systems that do not function properly and crews who are not proficient in the required skills because of poor maintenance deprive the commander of a combat multiplier critical to the high mobility, non-lineal battlefield of tomorrow.

CHAPTER 5

RISK MANAGEMENT

Tough, realistic training conducted to standard is the corner-stone of Army warfighting skills. An intense training environment stresses both soldiers and equipment, creating a high potential for accidents. The potential for accidents increases as training realism increases. Thus realistic training can pose a serious drain on warfighting assets. An accidental loss in war is no different in its effects from a combat loss; the asset is gone. Commanders must find ways to protect individuals, crews, teams, and equipment from accidents during realistic training to prepare for war. How well commanders do this could be the decisive factor in winning or losing. Commanders and staffs should use this chapter as a guide for developing SOPs and managing risk as it applies to their organization and missi on.

5-1. CONCEPT

Risk management is a tool leaders should use to make smart risk decisions in tactical operations. It is a common sense way of accomplishing the mission with the least possible risk. Through this process the commander identifies the events which will cause mission failure (identify hazards). These events include those hazards which could cause injury to personnel or damage to equipment. He then determines the impact or possible impact on the mission (possibility of failure/accident) (analyze risk), implements controls to minimize or eliminate the hazard, then executes the mission (make risk decision, supervise). Risk management is not a restrictive measure. It is a conscious analysis of the mission, courses of action, and the implementation of appropriate controls to ensure any identified hazard can be safely negotiated, thereby enhancing safe execution of the mission. When conflicts between hazards, controls, and mission can not be mitigated, the leadership makes a conscious decision to accept the risks for the sake of training realism (risk decision) and the unit performs the mission.

5-2. RESPONSIBILITIES

Risk management is not complex, technical, or difficult, and is not limited to the upper leadership. It is a simple decision making process and a way of thinking through a mission to balance mission demands against known risks. Realism can effectively be maintained in training while accomplishing thorough risk management. Risk management is performed during all aspects of daily activities; from sending a driver to drive a military vehicle on the roadways, to sending an aircrew on a routine day or marginal weather-NVD mission, to conducting physical readiness training, to crossing the street. In peacetime, the process must be deliberate, continuous, and must become second nature to those responsible for planning, approving, or leading activities. In combat, risks are generally more accepted as dictated by the mission priority; therefore, risk management must be instinctive, effective, continuous, and routinely practiced by all personnel.

a. Leaders. Management of risks is a leadership responsibility. Leaders include personnel from general officer to corporal. Anyone who leads a group of people, plans a mission, or supervises an activity, is a leader in some capacity. Planning must incorporate consideration for known hazards and must address appropriate control measures to minimize exposure. To meet these responsibilities, leaders:

(1) Do not accept unnecessary risk. If the risk can be eliminated or reduced and the mission still accomplished, the risk is mitigated and can be accepted. Find ways to mitigate the risk (i.e. change the people, change the mission time, provide additional preparation or training, or add additional supervision, etc.) which will still allow completion of the mission.

(2) Make risk decisions at the proper level. Once hazards have been identified and controls recommended, residual risks, if any, have to be accepted to accomplish the mission. Ensure the appropriate level of command has oversight based on the level of risk. The decision authority will vary between units and risk levels, but should be at the level which will be held accountable for the mission success or failure.

(3) Weigh risks accepted against the benefits expected. The benefits must clearly outweigh the potential cost in terms of life, limb, or property loss.

(4) Once controls have been identified to mitigate the risks, ensure the controls are understood and are not ignored during the mission by the personnel performing the mission. Controls are only effective if they are followed. Flight weather minimums are a good example. If the SOP requires 500-2 for night flight, the command must reinforce and support the decision to abort a mission, divert, or land the aircraft when conditions fall below these standards. Pre-mission planning should include options/controls for this example.

(5) Integrate risk management into all stages of all operations. This begins with the planning and continues through the completion. This means integrating into the training management cycle and the mission operational analysis. Consider it as contingency planning. You are actually looking at factors which could cause the mission to fail (cause loss of life, limb, or equipment) and implementing controls to minimize that probability.

b. Staff.

(1) Assists in the planning and identification of hazards for operations.

(2) Integrates risk management into operations plans and orders. In developing plans, the staff evaluates the risks, recommends controls to minimize the risks, and provides the commander with an assessment of the effectiveness of the imposed controls and the impact on training realism so he can make the risk acceptance decision.

(3) Evaluates imposed safety restrictions to ensure optimal training benefit is achieved without unnecessary restrictive measures applied.

(4) Assess the operational risk. Using METT-T to identify the risk to mission accomplishment, the staff begins to assess operational risks. The most important consideration is the outcome of the operation for the unit, higher headquarters, and adjacent units. Risk analysis is formulated using a course of action that is developed along the spectrum of frequent to unlikely event occurrence. The staff reviews and expands or refines the list throughout the planning and execution of the exercise. The staff then evaluates the possible consequences of those risks from catastrophic to negligible. For example, the staff plans a multi-aircraft airlift of personnel or supplies. Part of the planning should include the possibility of weather conditions degrading during the mission. The staff should propose controls, such as reinforcing the SOP, briefing crews, planning alternate transportation, designating recovery airfields, and practicing IMC recovery for multi-ship operations to name a few. They should also look at the possibility of more people or equipment showing up for transport than was expected. How will the crews accommodate this change and what impact will the additional payload have on the aircraft performance? Controls could include maximums on payload, additional sorties, backup aircraft, or other controls that would ensure mission accomplishment with minimum risks. There are additional hazards that could be identified in this example. This is only an example.

c. Safety Officer. The safety officer should be an integral part of the planning. He advises the commander and staff on safety requirements and recommends controls to minimize risks. The safety officer assists all staffs in integrating the risk management process into other staff functions. Additionally, he assists the command in supervising operations to ensure application and adherence to imposed controls and provides feedback as to the effectiveness of the program.

d. Crews. The crewmembers are an important part of risk management. As they will be executing the mission, they should be involved in the planning phase to help identify hazards, controls, and to ensure controls are understood. During mission execution, good crew coordination is paramount to continuously identify unexpected hazards (enemy situation, wires, weather, etc.) and to continuously refine controls during the mission which will enhance the success of the mission.

e. Individuals. Self-discipline is critical to mission accomplishment and to an effective risk management program. The best plan is worthless if the individuals performing the mission do not adhere to the controls or do not perform the task to standards. Individuals performing a mission are also responsible for performing risk management. While performing the mission, conditions change, therefore, hazards change, risks change and, by necessity, controls may change. The individual must constantly assess the conditions and must constantly apply the principles of risk management to ensure minimum risk to himself, the aircraft, and the mission.

5-3. RISK MANAGEMENT TRAINING

Commanders must conduct risk management training for their unit. It should emphasize the process and must reinforce the philosophy that every individual is responsible for performing risk management, not just the commanders.

5-4. RISK MANAGEMENT PROCESS

a. Step # 1 - Identify Hazards.

(1) Identify the major events in the mission and list chronologically. This will help identify all hazards associated with the specified as well as implied tasks.

(2) Complete a preliminary hazard analysis of operational events. This will identify the obvious hazards expected during the mission as early as possible in the planning phase. Early identification provides more flexibility in addressing the hazards and allows more options for controls, which maximizes a commander's ability to complete the mission. (Comparable to incorporating important features in the initial design of an aircraft versus retrofitting a modification).

b. Step # 2 - Assess Risks. Determine the level of risk associated with each hazard (probability and effect). Could an accident result in a fatality, damage to equipment, or mission failure? The degree of risk associated with the hazards will help define the level of controls necessary. For example: Risks associated with a single ship, NVD, tactical flight might include wire strikes, inadvertent weather, tree strikes, and spatial disorientation, while risks associated with a multi-ship mission in the same environment would include mid air collision as well. The risk of damage, injury, or death is present so the controls should be specified at the battalion or higher level. These are usually contained in unit SOPs or designated by the command. Some appropriate controls would include day route reconnaissance, minimum weather requirements, crew mix, mission execution time, crew awareness briefings on recovery procedures, and spatial disorientation (recognizing and countering) training or briefing. For multi-ship operations, these might also include talk through/walk through or practicing formation breakup procedures, and specifying separation distances and altitudes.

c. Step # 3 - Develop Controls and Make Risk Decision. All hazards cannot be eliminated therefore there is a point at which the command must accept the risks and direct the mission to continue. The intent is to mitigate the probability of an accident or the severity of the consequences with prudent controls. It is difficult to justify sending a crew of two inexperienced aviators on a complicated NVD mission if there are more experienced aviators available who could complement part of the crew without detracting significantly from the training. The intent is to influence as many factors as possible to minimize the exposure or likelihood of an accident without detracting from the training. At that point, the command must accept the risks for the sake of training. For example, the best crew mix on an NVD mission with the routes reconnoitered and good illumination, will still have the possibility of maintenance malfunction, human error, or obstacle strikes. The command has identified the controls but cannot eliminate all risks, therefore, it accepts the residual risks as necessary and unavoidable.

(1) In identifying and implementing controls, commanders should:

(a) Eliminate the hazard. This may include changing the crew, mission time (day versus NVD), route, or aircraft type.

(b) Guard or control the hazard. For flight operations, this might include routine radio calls to operations, crew mix, safety aircraft, ELTs, and minimum flight altitudes.

(c) Change operational procedures to limit exposure to hazards. For example, minimize the number of systems or personnel or limit exposure to a particular hazard.

(d) Train and educate personnel in hazard recognition and avoidance. Some good examples include the limitations of the NVDs and the known performance and operational limits of the aircraft.

(e) Provide protective clothing or equipment which will minimize injury and damage potential. Examples include the flight helmet (crash protection and hearing conservation), flight suit (fire protection), and SARVIP (ballistic protection).

(f) Use color coding and signs to alert personnel of hazards. Safety lanes in hangers, stairs, curbs, marking on aircraft for tail rotors, FARP markings, etc. are included here.

d. Step # 4 - Implement Controls. Integrate controls into the planning. Awareness of the hazards and controls down to the individual(s) performing the task is essential to success.

e. Step # 5 - Supervise.

(1) Leaders must enforce the controls and standards. The best risk management program is ineffective if the controls are ignored or not enforced. Obviously, the leadership cannot be on every aircraft or present for all tasks, therefore discipline within the unit and among the soldiers must be maintained, and assured. The most common cause of accidents is the failure of an individual to adhere to controls or a failure of the command to enforce a known standard.

(2) Leaders must supervise activities of subordinate units. Battalion should supervise Company operations; company should supervise Platoon operation, etc. Supervise does not imply interference. Only by seeing the character of operations can leaders fully appreciate risk implications or the effectiveness of the risk management program.

(3) Leaders at all levels are responsible for supervising operations. Anyone down to the individual enlisted soldier can share in the responsibility for supervising. The purpose of this supervision is to ensure the hazards are understood and the controls, identified by the chain of command, are followed. Additionally, as conditions constantly change, the supervisor continually applies the risk management process to ensure successful completion of the mission.

5-5. RISK ASSESSMENT TOOLS

The use of risk assessment tools, such as matrices and diagrams, are valuable during the planning stage of a mission. These tools do not internalize the entire risk management process into unit operations, but they do provide a systematic and tangible representation of the risk. However, do not allow the tools to become the overriding concern of the risk management process.

a. The Army standard risk assessment gauge includes four levels of risk: low, moderate, high, and extremely high. Figure 5-1 shows an example of a standard risk assessment gauge.

b. No matrix can include all of the hazards of every mission nor does a single matrix apply to all units. Commanders must determine the usefulness and content of any risk assessment tool. Commanders must consider a number of basic principles when they use risk assessment matrices.

(1) Simply adding the numbers up and finding the right level of command to accept the risk is not risk management.

(2) The risk assessment matrix is most valuable if it if used during mission planning.

(3) Each element of the matrix represents a specific hazard which in the assessment process is translated into a risk. Use caution. One element of the risk matrix may be assessed at a high value than diluted or overlooked if the overall mission assessment is a lower value.

(4) As they develop their risk assessment matrices, commanders should review the unit METL. Then they can decide on which of the tasks or task elements they personally want to initiate risk reduction action and approval. They should assess each METL task from the highest risk to the lowest risk. Their matrices should clearly show these critical elements.

(5) Commanders should include some additional items in the development of the risk assessment matrix. Accident data shows that a number of critical elements called crew error accelerator profiles play a major role in the risk management process. An example of a high risk mission is a tactical NOE mission flown at night using NVG with less than 23 percent and 30 degrees of illumination and restricted visibility caused by fog. If the mission results in an accident, the probable cause will be an en route scan error due to PC overconfidence. The accelerator factors that play the biggest role in this example are lack of illumination and the restriction to visibility. Commanders may wish to refer these types of mission elements to the battalion or brigade for risk reduction or acceptance.

(6) The synergistic effect of these accelerator factors greatly increases mission risk. Adding only one of these factors will increase mission risk by more than one. It could double or triple mission risk. The Battalion or Brigade Commander may retain risk reduction or acceptance for certain accelerator factors. For example, when illumination is less than 23 percent and 30 degrees, visibility is obscured, total flight time of the crew is less than 500 or more than 2,500 hours, or the crew duty day is longer than 12 hours with 4 hours of flight time.

		HAZARD PROBABILITY				
		Frequent	Likely	Occasional	Seldom	Unlikely
		A	B	C	D	E
E F F E C T	Catastrophic I	EXTREMELY				MODERATE
	Critical II	HIGH	HIGH		MODERATE	
	Moderate III	HIGH	MODERATE			
	Negligible IV	MODERATE				LOW

Figure 5-1

c. The effect of the associated risk.

- CATASTROPHIC--Death or permanent total disability, system loss, major property damage.
- CRITICAL--Permanent partial disability, temporary total disability in excess of three months, major system, damage, significant property damage.
- MODERATE--Minor injury, lost workday accident, compensable injury or illness, minor property damage.
- NEGLIGIBLE--First aid or minor supportive medical treatment, minor system impairment.

d. The probability of occurrence is defined in Figure 5-2.

PROBABILITY	
FREQUENT--Individual soldier/item	Occurs often in career/equipment service life.
All soldiers or item inventory exposed.	Continuously experienced.
LIKELY--Individual soldier/item	Occurs several times in career/equipment service life.
All soldiers or item inventory exposed.	Occurs frequently.
OCCASIONAL--Individual soldier/item	Occurs sometime in career/equipment service life.
All soldiers or item inventory exposed.	Occurs sporadically or several times in inventory service life.
SELDOM--Individual soldier/item	Possibility of occurrence in career/equipment life.
All soldiers or item inventory exposed.	Remote chances of occurrence; expected to occur sometime in inventory service life.
UNLIKELY--Individual soldier/item	Assume no occurrence in career/equipment service life

Figure 5-2. PROBABILITY

e. RISK LEVELS

- Extremely High-Loss of ability to accomplish mission.
- High Risk-Significantly degrades mission capabilities in terms of the required mission standards.

- Moderate Risk-Degrades mission capabilities in terms of the required mission.
- Low Risk-Little or no impact on mission accomplishment.

5-6. TRAINING REALISM ASSESSMENT (TRA)

One of the most fundamental concepts in both FM 25-100 and FM 25-101 is to "train as we will fight". In fact, FM 25-101 is entitled, "Battle Focused Training". However, to train as we will fight is not always possible for a number of reasons.

a. Training never fully duplicates actual combat because no hostile force fires back with real weapons. Some combat action can be simulated but, as effective as simulation sometimes is, it can never duplicate combat exactly.

b. Resource constraints also restrict realism. Normally, ammunition, fuel, OPFOR, time, and training land are not available to duplicate the combat environment.

c. Safety related restrictions also must be considered. Many risks that are reasonable in combat are not supportable in training. The benefits of accepting some risks in training are not as great as the benefits of accepting the same risk in combat. Therefore, commanders do not accept all the risks during training that they would during combat.

d. Although combat will never be totally duplicated during training, a safety risk management procedure helps commanders come close. This procedure is called the Training Realism Assessment (TRA). The TRA enables commanders to systematically ensure that all risk controls they establish have at least one of two characteristics. Each risk control either has full application in combat or it has been demonstrated to be essential for controlling risk in training. After applying TRA, commanders can be assured that the training is as realistic as it can and should be in a training environment.

5-7. TRAINING REALISM ASSESSMENT PROCEDURE

a. Safety risk management using the TRA process offers the Army a tool to increase the realism of combat training without increasing the risk. The result is lower overall risk for the soldier who enters combat better trained.

b. For new operations, the TRA procedure begins when commanders complete their initial selections of risk controls. However, commanders can and should apply the TRA procedure to existing training. Using the steps in the following paragraphs, commanders can test each existing or proposed risk control.

(1) Determine if the risk control is consistent with the procedures commanders intend to use to fight. If it is not, list all of the differences.

(2) Determine which differences are due to safety restrictions and which ones are not. Those that are not still must be evaluated. They may cause safety risks by increasing unrealistic conditions.

NOTE: If there are no differences, all of the training risk controls are compatible with the procedures commanders intend to use when they fight.

(3) Identify those differences that are believed to be due to safety risk controls as well as those that actually are due to safety risk controls.

(4) Determine if there are other reasons for the restriction; for example, resource constraints and tradition. Then determine if the reason for the restriction is legitimate. If it is, leave it. Make sure, however, that all personnel involved in training understand that the restriction has nothing to do with safety and that it will not be used in actual combat. If the alleged risk control has no legitimate reason, delete it.

(5) Finally, determine the impact the risk control measure has on the mission. If the risk control has an undesired impact, determine if there is a way to modify the control so that it can be used effectively in combat. Commanders may find that some risk controls that are needed cannot be modified to reduce their adverse impact on realism. In this case, they can explain to their leaders and soldiers that the risk control is used only for training.

c. If TRA procedures are followed carefully—

(1) Most risk controls will be fully useful in combat.

(2) Those controls that are not useful in combat will be essential and have been designed to have minimum adverse impact on realism.

(3) Those controls that are essential but unrealistic will have been identified to leaders and soldiers as "training only".

CHAPTER 6

FLYING-HOUR PROGRAM

Commanders must be intimately involved with the development and management of their units flying hour program. Commander's close scrutiny is required to maximize the use of scarce resources. Perhaps the largest challenge of managing the flying hour program is trying to balance training and maintenance while sustaining both disciplines within the "band of excellence". The key to success is balanced and consistent flying as opposed to peaks and valleys.

6-1. RESPONSIBILITIES OF COMMANDERS

Commanders must base their flying hour program on the minimum number of hours required to achieve and maintain proficiency at the individual, crew and collective levels. Collective task iteration and frequency are derived from the Combined Arms Training Strategy (CATS) and are directly related to readiness levels reported. When resources are insufficient to maintain proficiency of the entire METL, the commander should, in conjunction with his higher chain of command, prioritize the tasks and only maintain unit proficiency at those tasks for which he is resourced. To properly develop a flying hour program, the commander must consider:

a. Aviation CATS

b. Crewmember density

c. Crewmembers not assigned to the unit who will fly the aircraft (such as Brigade Staff)

d. Annual crewmember turnover

e. Flight Activity Categories assigned to each crewmember

f. Readiness Level Progression

g. Number of aircraft assigned

h. Mission support requirements

i. Supported unit requirements

j. Number of hours necessary for aircraft maintenance

k. Current status of unit training

l. Other directed training programs, such as Combat Training Center (CTC) rotations

m. Training Aids, Devices, Simulators, and Simulations (TADSS) available for individual, crew, and collective training.

6-2. FORMULATION OF A UNIT FLYING HOUR PROGRAM (FHP)

The number of flying hours required for training depends on a number of diverse factors. The place to begin planning is with a task-based CATS, which includes the task iteration frequency necessary to maintain proficiency and the flying hours per task. CATS are not available for all units at this time. Commanders of units that do not have a CATS must utilize a CATS from a similar unit and conduct an analysis of their METL as well as short and long range training plans to develop their FHP.

a. Step 1, Baseline (Fig 6-1). Determine manning level, the personnel turnover rate and current level of training. This will be the foundation for determining readiness level progression and APART requirements. The example that follows is for an AH-64A attack battalion at 100% strength, supporting 7 brigade staff aviators and 3 AVIM aviators. The unit has a 50% turnover rate, applied equally to the battalion and supported aviators. In this example, the full 90-day progression is applied to each level. Readiness level designation utilizes a one-third rule.

ASSUMPTIONS

	Total	FAC 1	FAC 2	Turnover Rate:	50%	FAC 1	FAC 2	Days in Progression
Battalion Aviators:	64	52	12	Total Turnover:	37	30	7	
Brigade Staff Aviators:	7	2	5	Designated RL 3:	12	10	2	90
AVIM Aviators:	3	0	3	Designated RL 2:	12	10	2	90
Total:	74	54	20	Designated RL 1(P):	13	10	3	NA

Number of Assigned Aircraft: 24 Required for Battalion Collective Training: 18

Figure 6-1 Baseline Assumptions

NOTE: All OPTEMPO numbers are crew OPTEMPO, hours expended divided by assigned crews, divided by 12 months.

b. Step 2, RL Progression (Fig 6-2). The aircraft flying hours and simulation hours required for each level of RL progression and APART is an average obtained from field sampling. The AVCATT hour requirement is a CATS projection.

(1) RL 3 to RL 2. In the example below, the 12 aviators designated RL 3 will fly 15 hours prior to progression to RL 2. The unit will expend 180 aircraft flying hours at a 0.41 crew OPTEMPO.

(2) RL2 to RL 1(P). The number of aviators undergoing RL 2 to RL 1(P) is 24. The 12 initially designated RL 2 and the 12 progressed form RL 3 to RL 2. Each RL 2 aviator will fly 10 aircraft hours during progression for a total unit expenditure of 240 hours at a 0.54 crew OPTEMPO.

(3) Commander's Evaluation/PFE to RL 1(P). In the example, an average of 2 hours is allocated for a commander's evaluation/PFE. Aircraft flying hours resulting from records check is 13 aviators times 2 hours each for a total of 26 aircraft flying hours.

(4) RL 1(P) to RL 1(T). Assume that all incoming crewmembers will undergo collective training. In the example battalion, a turnover rate of 50% equates to 37 crewmembers. The example uses 4 hours per aviator for crew collective training. This may vary from unit to unit. Total aircraft flying hours for crew collective training is 148 aircraft hours.

(5) APART. Every crewmember assigned and supported has an APART requirement. Our sample battalion has 64 assigned crewmembers and supports 10. The sample battalion will conduct 74 APARTS annually at an average of 4 aircraft hours each. This equates to a unit expenditure of 296 aircraft hours for APART evaluations.

(6) RL Progression. Total the units resource requirement for RL progression training and APART evaluations.

RL Progression	Aviators	Crews	Hours	Aircraft	OPTEMPO	CMS	OPTEMPO	**AVCATT**	OPTEMPO
(1) RL 3 to RL 2:	12		15	180	0.41	36	0.08		
(2) RL2 to RL1(P):	24		10	240	0.54	48	0.11		
(3) Records Check RL1(P):	13		2	26	0.06	5	0.01		
(4) RL1(P) to RL1(T):	37		4	148	0.33	30	0.07	30	0.07
(5) APART:	74		4	296	0.67	59	0.13	59	0.13
	(6) RL Progression:			**890**	**2.00**	**178**	**0.40**	**89**	**0.20**

Figure 6-2 RL Progression

c. Step 3, Sustainment Crewmembers (Figure 6-3). Accurate calculation of sustainment requirements is dependent on accurate computation of the number of crewmembers in sustainment at any given time in the unit training year. Use the "Turnover" numbers determined in the Step 1 to compute the number of FAC 1 and FAC 3 crewmembers in sustainment training.

(1) Sustainment Base (Figure 6-3). Subtract the "Turnover" numbers from the total crewmembers assigned. The result is a baseline of crewmembers in sustainment that will not rotate during the training year.

	FAC 1	FAC 2	Total
Assigned:	54.0	20.0	74.0
Turnover:	-27.0	-10.0	-37.0
Sustainment Base:	**27.0**	**10.0**	**37.0**

Figure 6-3 Sustainment Base

(2) Turnover, RL 1(P) (Figure 6-4). Next, compute the number of "turnover" crewmembers that will have a sustainment requirement during the training year. All incoming crewmembers designated RL 1(P) have a sustainment training requirement. Add these to the "Sustainment Base".

	FAC 1	FAC 2	Total
Sustainment Base:	27.0	10.0	37.0
RL 1(P) Designees:	+10.0	+3.0	+13.0
	37.0	**13.0**	**50.0**

Figure 6-4 RL 1(P) Sustainment

(3) Turnover, RL 3 (Figure 6-5). To compute the number of RL 3 designees that will have sustainment requirements, subtract the number of days an RL 3 designee will spend in progression from the days in a training year. Divide the number of days in sustainment by the number of days in a year to determine the percentage of sustainment. Multiply this number times the number of RL 3 designees to determine the number of RL 3 designees that will be in sustainment training during the training year.

Training Year =	365	FAC 1 RL 3 Designees	10.0
Days at RL 3 =	-90		.507
Days at RL 2 =	-90		**5.07**
Days in Sustainment =	185	FAC 2 RL 3 Designees	2.0
Sustainment Days/Training Year =	50.7%		.507
			1.01

Figure 6-5 RL 3 Sustainment

(4) Turnover, RL 2 (Figure 6-6). To compute the number of RL 2 designees that will have sustainment requirements, subtract the number of days an RL 2 designee will spend in progression from the days in a training year. Divide the number of days in sustainment by the number of days in a year to determine the percentage of sustainment. Multiply this number times the number of RL 2 designees to determine the number of RL 2 designees that will be in sustainment training during the training year.

Training Year =	365	FAC 1 RL 2 Designees	10.0
Days at RL 2 =	-90		.753
Days in Sustainment =	275		**7.53**
Sustainment Days/Training Year =	75.3%	FAC 2 RL 2 Designees	2.0
			.507
			1.51

Figure 6-6 RL 2 Sustainment

(5) Total Sustainment Crewmembers (Figure 6-7). Combine the results of the computations in (1) through (4) above to determine the total number of crewmembers in sustainment training during the unit training year.

	FAC 1	FAC 2	Total
Sustainment Base:	27.0	10.0	37.0
RL 1(P) Designees:	+10.0	+3.0	+13.0
RL 3 Designees:	+5.07	+1.01	+6.08
RL 2 Designees:	+7.53	+1.51	+9.04
Total Sustainment:	**49.6**	**15.52**	**65.12**

Figure 6-7 Total Sustainment

d. Step 4, Individual Sustainment (Figure 6-8). Individual sustainment training requirements are from the CATS analysis and listed in each aircraft ATM. Determine the required individual sustainment missions and the corresponding resource requirements. Multiply the required hours by the number of crews in sustainment to determine the unit hours. In the example unit, there are 65.12 aviators or 32.56 crews in sustainment. This unit's ATM requires each crew to fly 4.9 hours of instrument training in the aircraft annually. The numbers of crews (32.56) times the instrument requirement (4.9) amounts to 160 hours of unit flying hours. Compute the unit resource requirement for the individual simulator and AVCATT for all the required sustainment missions and total. Unit cumulative is the total planned unit resources expended.

Sustainment									
FAC 1/2 Individual	AIRCRAFT			CMS			AVCATT		
Aviators: 65.12 Crews: 32.56	Individual	Unit	OPTEMPO	Individual	Unit	OPTEMPO	Individual	Unit	OPTEMPO
Instruments:	4.9	160	0.35	4.9	160	0.36			
Basic Airmanship:	8.1	264	0.59						
Emergency Procedure:	4.3	140	0.31	4.2	137	0.31			
Opposite Seat:	2.5	81	0.18	1.9	62	0.14			
Individual:		645	1.45		359	0.81			
Unit Cumulative:		1535			537			89	

Figure 6-8 Individual Sustainment

e. Step 5, Crew Sustainment. Crew sustainment training requirements are from the CATS analysis and listed in each aircraft ATM. Unlike individual, each FAC level has different sustainment training requirements. Utilizing the crew requirements outlined in the ATM, compute the crew requirements using the same process used for the individual.

FAC 1 Crew	AIRCRAFT			CMS			AVCATT		
Aviators: 49.6 Crews: 24.8	Crew	Unit	OPTEMPO	Crew	Unit	OPTEMPO	Crew	Unit	OPTEMPO
Gunnery STX Day:	5.1	126	0.28	5.1	126	0.28			
Gunnery STX Night:	6.1	151	0.34	5.6	139	0.31			
FAC 2 Crew									
Aviators: 15.52 Crews: 7.76	Crew	Unit	OPTEMPO	Crew	Unit	OPTEMPO	Crew	Unit	OPTEMPO
Gunnery STX Day:	3.4	26	0.06	3.4	26	0.06			
Gunnery STX Night:	4.0	31	0.07	3.7	29	0.06			
Crew:		334			320				
Unit Cumulative:		1869			857			89	

Figure 6-9 Crew Sustainment

f. Step 6, Team/Platoon. Team/Platoon sustainment training requirements are from the CATS analysis and listed in each aircraft ATM. Sustainment training requirements are different for each FAC level. Utilizing the team/platoon requirements outlined in the ATM, compute the crew requirements using the same process used for the individual.

FAC 1 Team/Platoon	AIRCRAFT			CMS			AVCATT		
Aviators: 49.6 Crews: 24.8	Crew	Unit	OPTEMPO	Crew	Unit	OPTEMPO	Crew	Unit	OPTEMPO
Platoon Attack STX:	47.3	1173	2.64	8.7	209	0.47			
Platoon Reconnaissance STX:	29.5	732	1.65	8.0	192	0.43			
Tactical Movement:	2.1	52	0.12						
FAC 2 Team/Platoon									
Aviators: 15.52 Crews: 7.76	Crew	Unit	OPTEMPO	Crew	Unit	OPTEMPO	Crew	Unit	OPTEMPO
Platoon Attack STX:	31.5	244	0.55	7.9	63	0.14			
Platoon Reconnaissance STX:	16.0	124	0.28	5.3	42	0.10			
Tactical Movement:	2.1	16	0.04						
Team/Platoon:		2341	5.27		506	1.14			
Unit Cumulative:		4210			1363			89	

Figure 6-10 Team/Platoon Sustainment

g. Gunnery. The computations in Figure 6-11 are for 1 annual live aircraft gunnery for each FAC 1 crewmember. The requirements for Table III/V are based on the number of crewmembers undergoing RL 3 and 2 progression. The hours required for each table are based on a field average, unit requirements may vary. Table VI is computed by multiplying the hours to certify all weapon and sighting subsystem on the aircraft times the number of assigned aircraft. Compute Tables VII through XII by multiplying the number of FAC 1 crews (24) time the hour required per table times two, for day and night iterations. Total the gunnery requirements and add the unit cumulative.

Gunnery									
Aviators: 48 Crews: 24	AIRCRAFT			CMS			AVCATT		
RL 3/2 Progression: 24	Individual	Unit	OPTEMPO	Individual	Unit	OPTEMPO	Individual	Unit	OPTEMPO
Table III/IV:	2.0	24	0.05	2.0	24	0.05			
Table VI:	1.5	36	0.08						
Table VII:	2.0	96	0.22						
Table VIII:	2.0	96	0.22						
Table X:	2.5	120	0.27						
Table XII:	2.5	120	0.27						
Gunnery:		492	1.11		24	0.05			
Unit Cumulative:		4702			1386			89	

Figure 6-11 Gunnery

h. Company Collective. Company collective requirements are derived from the CATS analysis and listed in the MTPs. Number of crews are those required to fill 75% of the units assigned aircraft. Compute the unit requirements by multiplying the CATS annual collective crew requirement per mission times the number of aircraft flying the mission. AVCATT requirements are based on total number of crews in sustainment training. Multiply the number of sustainment crews (33) times the CATS annual crew requirement per mission type.

Company Collective	AIRCRAFT			CMS			AVCATT		
Aviators: 36 Crews: 18									
Sustainment Crews: 33	Crew	Unit	OPTEMPO	Crew	Unit	OPTEMPO	Crew	Unit	OPTEMPO
Reconnaissance:	14	254	0.57				7.0	211	0.48
Attack:	19	342	0.77				6.4	231	0.52
Security:	5	90	0.20				5.0	165	0.37
Special Ops:	2	36	0.08						
Company Collective:		720	1.62					607	1.37
Unit Cumulative:		5422			1386	3.12		696	

Figure 6-12 Company Collective

i. Battalion Collective. Battalion requirements are from the same sources as the company and computed the same way.

Battalion Collective	AIRCRAFT			CMS			AVCATT		
Aviators: 36 Crews: 18									
Sustainment Crews: 33	Crew	Unit	OPTEMPO	Crew	Unit	OPTEMPO	Crew	Unit	OPTEMPO
Reconnaissance:	13.6	245	0.55				6.8	224	0.48
Attack:	20.7	373	0.84				6.7	221	0.52
Security:	5.5	99	0.22				5.0	182	0.37
Battalion Collective:		716	1.61					627	1.37
Unit Cumulative:		6138			1386			1323	

Figure 6-13 Battalion Collective

j. Support. Determine mission support requirements such as CTC rotations, Div/Corps FTXs, etc. This can be as a block hour commitment or computed by number of aircraft required by hours per aircraft. Determine how much of the support requirements can be accomplished as part of scheduled training. Subtract this number from the total support requirement to determine additional flying hours required. Add this to the previous unit cumulative hours.

Support Requirements	AIRCRAFT		
Number of Acft: 18	Aircraft	Unit	OPTEMPO
NTC/CTC:	30	540	1.27
DTV FTX:	15	270	0.61
Corps FTX:	18	324	0.73
Total Support:		1134	
During Scheduled Collective:		-794	
Additional Requirements:		340	
Unit Cumulative:		6478	

Figure 6-14 Support Requirements

k. Maintenance. Multiply unit cumulative by 5% for maintenance requirements. Add this number to the unit cumulative for the unit total flying hour program.

Maintenance Requirements

Unit Cumulative:		6478
Maintenance	5%	324

Figure 6-15 Maintenance Requirements

l. Total Flying Hour Requirement. Divide cumulative totals by number of assigned crews by 12 to determine unit crew OPTEMPO.

- **AIRCRAFT:** 6802 divided by 37 crews, divided by 12 months = 15.32 Crew OPTEMPO
- **CMS:** 1386 divided by 37 crews, divided by 12 months = 3.12 Crew OPTEMPO
- **AVCATT:**1323 divided by 37 crews, divided by 12 months = 2.98 Crew OPTEMPO
- **Total Crew Training OPTEMPO** = 21.42 Crew OPTEMPO

	AIRCRAFT			CMS			AVCATT		
	Crew	Unit	OPTEMPO	Crew	Unit	OPTEMPO	Crew	Unit	OPTEMPO
Unit Cumulative:		**6802**	**15.32**		**1386**	**3.12**		**1323**	**2.98**
TOTAL CREW TRAINING OPTEMPO			**21.42**			**(ADD 15.32+3.12+2.98=21.42)**			

Figure 6-16 Total Requirements

6-3. MANAGEMENT OF RESOURCES

a. Reduced training resources may result from a myriad of factors such as DA directed budget reductions or reallocation of funds. Flying hours, ammunition, and repair parts allotted to a unit training program may be removed suddenly because of budget constraints. If the flying hour program is reduced, the commander must prioritize tasks and missions in conjunction with his higher chain of command in order to determine which tasks or missions will be deleted.

b. When reductions are received, commanders cannot sacrifice proficiency of individuals and crews, but must apply cuts to the collective task list. As an example, if a 10% reduction of the flying hour program is mandated, the commander should identify the appropriate collective tasks and discontinue training those tasks that equal 10% of his FHP. An air cavalry squadron commander may determine that this reduction will be the discontinuance of air assault security, route reconnaissance, or area reconnaissance. All other collective tasks as well as all individual and crew tasks will continue to be performed at the frequency required to maintain proficiency. These tasks will not be trained or performed in support of other units until the flying hours are reestablished. Certainly the inability to perform all required iterations of METL tasks will impact upon readiness. Therefore, readiness reporting should be restricted to no higher than C2.

c. Commanders will not reduce flying hours dedicated to individual and crew proficiency. Commanders must ensure that less experienced crewmembers are afforded the opportunity to continue to build their skills.

d. There are some unique ways to obtain additional flying hours. This usually involves participation in unique missions such as:

(1) Border Patrol

(2) Drug Enforcement

(3) CTC

(4) Joint Task Force 6 exercises

e. Training Aids, Devices, Simulators, and Simulations (TADSS) are a set of training tools to offset the financial, safety, environmental, and technological constraints associated with training, as well as provide enhanced realism through the synthetic application of all battlefield operating systems, related units, and diverse training environments. Proper utilization of part task trainers such as Aircraft Survivability Equipment Trainer (ASET), TADS Selected Task Trainer (TSTT), and Crew and Weapons Emergency Procedure Trainer (CWEPT) is crucial to the affordable maintenance of proficient aircrews. A well-structured training program will specify which tasks are to be trained on which device, the frequency of training, and a progressive linkage from one training device to another. The trainers must also consider the connectivity of various TADSS in planning training programs. The training strategy must progressively increase the intensity of training using a crawl-walk-run methodology, as it seeks to integrate all facets of the available TADSS mix. The FHP includes minimum simulator hours per aviator when simulators are available. Simulator requirements are specified in AR 95-1. Collective simulations will be suitable for the conduct of collective tasks that the CATS require to be conducted during an FTX. As an example, the OH-58D(I) has four battalion level quarterly FTXs. One of the quarterly FTXs will be conducted with collective simulation. This does not limit the unit to only one annual collective simulation. It is imperative to develop Training Support Packages (TSP) for training with collective simulators. TSPs will save the unit planning time while allowing focused training on the METL.

f. Cost of Business (COB) considerations requires historical knowledge of the unit in addition to knowledge of the current long-range training plan. Examples of COB expenditures are:

(1) Self-deployment to CTC, Deck Landing Operations, etc.

(2) Travel to gunnery ranges

(3) Environmental training: desert, mountain, jungle, over water, cold, saltwater, and high-density altitude.

g. Commanders must balance flying hours and maintenance requirements. The key to success is balanced and consistent flying as opposed to peaks and valleys. There will be surges during FTXs, ARTEPs, and CTC rotations, so commanders must plan and execute necessary recovery periods that will provide a leveling effect to the FHP. The goal is to keep both training and maintenance within the band of excellence.

CHAPTER 7

AVIATION TRAINING GUIDELINES FOR UNIT STATUS REPORTING

Operational readiness is more than just the hours resourced for a unit's flying hour program. The status of training across the spectrum of individual and crew tasks and the unit's METL must be considered. Proficiency within the "band of excellence" defined by FM 25-100 is the standard rather than the traditional individual currency defined by prior Commander's Guides and Aircrew Training Manuals.

7-1. UNIT STATUS CONSIDERATIONS

a. The two primary Army regulations governing readiness reporting are AR 220-1, (Unit Status Reporting) and AR 700-138, (Army Logistics Readiness and Sustainability). Although this guide deals primarily with training, a commander must be intimately familiar with both of these regulations. Aviation logistical readiness implications impact on a commander's training program more than any other factor.

b. Commanders determine their unit's overall status based on an assessment of the unit's capability to accomplish its assigned mission. Commander responsibilities listed in AR 220-1 include:

(1) Maintain the highest unit status level possible with given resources.

(2) Review subordinate unit reports and accurately assesses and reports unit status.

(3) Distribute unit equipment and resources against mission essential requirements on a priority basis.

(4) Train to the highest level possible with the resources that are available.

(5) Update unit status between regular reports, as required.

(6) Software to process and submit the USR and related SORTS reports.

c. AR 220-1 C-level definitions include:

(1) C-1. The unit possesses the required resources and is trained to undertake the full wartime mission(s) for which it is organized or designed.

(2) C-2. The unit possesses the required resources and is trained to undertake most of its wartime mission(s) for which it is organized or designed.

(3) C-3. The unit possesses the required resources and is trained to undertake many, but not all, portions of the wartime mission(s) for which it is organized or designed.

(4) C-4. The unit requires additional resources or training to undertake its wartime mission(s), but it may be directed to undertake portions of its wartime mission(s) with resources on hand.

(5) C-5 The unit is undergoing a service-directed resource action and is not prepared, at this time, to undertake the wartime mission(s) for which it is organized or designed.

d. Resourcing factors for commanders to consider include the availability of flying hours, training ammunition, fuel, and training aids, devices, simulators, and simulations.

e. In addition to measured resources, commanders must consider other factors such as morale, discipline, availability of critical equipment, and availability of qualified key person.

7-2. ASSESSING AND REPORTING UNIT PROFICIENCY IN MISSION ESSENTIAL TASKS

a. The unit's METL is derived from an analysis of the assigned wartime missions and is approved by the next higher headquarters in the unit's reporting chain of command. The commander, at all levels, assesses the unit's ability to execute mission essential tasks to standard. Commanders consider the unit's ability to perform in unique operational environments as required by the unit's METL. When assessing unit proficiency, commanders make use of personal observations, records, reports and the assessments of others (internal and external to the unit).

b. The commander considers the demonstrated proficiency of subordinate units, leaders, soldiers, and the availability of critical resources required to support METL training as follows:

(1) Proficiency is shown by unit and organic sub-elements during recent external evaluations of Army Training and Evaluation Program (ARTEP) Mission Training Plan (MTP) standards, training densities at combat centers, emergency deployment readiness exercises, field training exercises, command post exercises, combined arms live-fire exercises, operational readiness exercises, and other training events described in the unit's Combined Arms Training Strategy (CATS). Proficiency is measured in terms of the units' demonstrated ability to perform the tasks as stated in the approved METL, including supporting tasks not specified in the METL but necessary for performance of METL tasks. Proficiency is judged based on performance of tasks to standard. Full METL proficiency is achieved when a unit has attained a Trained (T) level of training in all METL tasks as defined in FM 25-101. Sustainment of proficiency then becomes the challenge.

(2) Leader qualification includes not only those areas of training required by the base branch of the officer/warrant officer/NCO, but may also include those areas required by professional leadership development programs.

c. In addition to maintaining a minimum number of qualified individuals (minimum fill described below) to perform most of the critical warfighting tasks to standard, commanders must satisfactorily accomplish a minimum number of required collective training events as defined in the current Aviation CATS. Figure 7-1 breaks down METL task assessment requirements for each T level.

T1	85%, or greater, of a unit's METL tasks must have been assessed as "T" during the past 180 days.
T2	75% - 84% assessed as "T" during the last 180 days.
T3	65% - 74% assessed as "T" during the last 180 days.
T4	Less than 65% of the unit's METL tasks assessed as "T" during the last 180 days.

Figure 7-1. Collective Training T-Level Ratings

7-3. CREWMEMBER STATUS AND UNIT STATUS RELATIONSHIP

a. The status of aviation unit training depends on the status of individual/crew/collective training. Individual, crew, and collective proficiency must be balanced. Per AR 220-1, units with aircraft pacing items enter the crew member training T-level on the unit status report. The T-level rating provides meaningful information for the entire chain of command. The unit training T-level is a major factor in determining how many days the unit needs to train to standard on METL tasks. Commanders use the number of days along with the information in AR 220-1 to determine the overall training T-level. A major change to this TC is the addition of the two collective training gates requiring crews to become RL 1(T).

T1 Not less than 85 percent of minimum fill-required crewmembers are RL1 (T) in their primary aircraft. Additionally, not less than 75 percent of minimum fill-required crewmembers have successfully completed all required gunnery qualifications as outlined in FM 1-140 and the appropriate Aircrew Training Manual with in the last 180 days.

T2 Not less than 75 percent of minimum fill-required crewmembers are RL (T) in their primary aircraft. Additionally, not less than 50 percent of minimum fill-required crewmembers have successfully completed all required gunnery qualifications as outlined in FM 1-140 and the appropriate Aircrew Training Manual with in the last 180 days.

T3 Not less than 65 percent of minimum fill-required crewmembers are RL (T) in their primary aircraft. Additionally, not less than 25 percent of minimum fill-required crewmembers have successfully completed all required gunnery qualifications as outlined in FM 1-140 and the appropriate Aircrew Training Manual with in the last 180 days.

T4 Does not meet minimum criteria for **T3**.

Figure 7-2. Crewmember Training T-Level Ratings

b. All FAC 1, and those FAC 2 crewmembers selected by the commander, will be NVG/NVS proficient. The only exceptions to this requirement are those positions designated by the commander as not having METL NVG/NVS proficiency requirements.

c. Per AR 220-1, the minimum manning level of fill is defined as the minimum number of soldiers, including a minimum number of qualified individuals, required to perform most of the critical warfighting tasks to standard for that system within a continuous (24 hour) environment, while accepting some risk in sustained mission accomplishment and/or force protection. Aviation reporting criteria are included in table 7-2.

Aircraft	PC	PI	CE	Qualified NCM(s)	Minimum Fill
OH-58D(I)	1	1			2
AH-64 A/D	1	1			2
AH-1 E/F	1	1			2
UH-1 H /V	1	1	1		3
UH-60 A/L/V	1	1	1	1	4
EH-60 A/L	1	1	1	2	5
OH-58 A/C	1	1			2
CH-47	1	1	1	1	4

Figure 7-3. Minimum Fill Requirements

7-4. ADDITIONAL TRAINING CONSIDERATIONS

a. For USR reporting purposes, commanders of aviation units may only subjectively downgrade the overall unit T-level as determined in Figure 7-2.

b. Training Aids, Devices, Simulators, and Simulations are powerful tools to offset live training resources. Commanders are encouraged to maximize the use of these tools.

c. Most aviation units have historically been resourced at a C2 level of OPTEMPO. Under current ammunition resourcing, unit commanders have two options;

(1) Gunnery qualify all assigned aircrews annually and report T1 for crewmember training for 180 days. After 180 days without additional resources, the commander would have to report T3 or possible T4 until the next annual gunnery.

(2) Gunnery qualify 50% of all assigned aircrews semi-annually and report T2 for crewmember training. Maintaining a constant 50% gunnery qualified aircrew base will significantly reduce the resource requirements for ramp-up to the next readiness level when required.

ANNEX A

AIRCREW COORDINATION

Aircrew coordination is a set of principles, attitudes, procedures, and techniques that transforms individuals into an effective crew. It is a vital part of the overall ATP. Units will conduct initial aircrew coordination qualification training according to this publication and the USAAVNC Aircrew Coordination Exportable Training Package (ETP). To obtain information about this ETP, units may write to the Commander, U S Army Aviation Center, ATTN: ATZQ-TDS-T, Fort Rucker, Alabama 36362-5263. All active Army and NG / USAR crewmembers must be qualified. Crewmembers who are not qualified will remain RL 2 until qualification is completed.

A-1. QUALIFIED INSTRUCTORS

Evaluator/trainers who have completed the aircrew coordination trainer course per the ETP (ARNG requires designation by NGB-AVN-OTS) may conduct aircrew coordination training/qualification as follows:

a. Academic Instruction. Evaluator/trainers may conduct academic training.

b. Flight Training (aircraft/simulator). IPs and SPs may conduct all RCM and NCM flight training. FIs and SIs may conduct all NCM flight training. IEs may conduct RCM flight training using instrument scenarios. UTs may conduct RCM flight training of tasks that they are authorized to instruct. (For example, a UT authorized to instruct tactical tasks may perform aircrew coordination training using tactical scenarios.)

c. Evaluations. IPs and SPs may conduct all RCM and NCM evaluations. IEs may conduct RCM evaluations using instrument scenarios. FIs and SIs may conduct all NCM evaluations.

d. Qualified instructors may qualify other IPs, IEs, SPs, UTs, FIs, and SIs as trainers. FIs and SIs may qualify other FIs and SIs as trainers.

A-2. DOCUMENTATION

The aircrew coordination qualification will be annotated on the individual's DA Form 7122-R (Crewmember Training Record) and in the remarks section of the individual's DA Form 759 (Individual Flight Record and Flight Certificate-Army) on close out.

a. Aircrew coordination will be emphasized during readiness level progressions and will be evaluated during all evaluation flights.

b. The inclusion of aircrew coordination in ATM task descriptions reflects the “crew concept” philosophy that generally no task is an individual undertaking. Each task can be performed more effectively and safely by the coordinated efforts of the entire crew. ATM revisions will include crew actions in the task descriptions, as appropriate. Crew actions define responsibilities, whether individual or crew, by describing the parts of a task that an individual or group of crewmembers will perform. Knowledge of the crew actions for tasks being performed will help crewmembers perform their individual actions more effectively and enhance crew coordination.

c. Research and studies conducted by the US Army Aviation Center, the US Army Research Institute, and the US Army Safety Center show the importance of good aircrew coordination. An analysis of US Army aviation accidents revealed that a significant percentage of these accidents resulted from one or more crew coordination errors committed before or during the flight. Often an accident was the result of a sequence of undetected crew errors that combined to produce a catastrophic result. Additional research by USARI showed that even when accidents are avoided, these same errors can result in degraded performance. A systematic analysis of these error patterns identified specific areas where crew-level training could reduce the occurrence of such errors and break the error chains leading to accidents and poor performance.

d. Broadly defined, aircrew coordination is the interaction of crewmembers necessary for the safe, efficient, and effective performance of tasks. Working with this definition, the USAAVNC and USARI translated crew coordination concepts into a set of 13 basic qualities. These qualities have been incorporated into the USAAVNC Aircrew Coordination ETP. Each basic quality is defined in terms of observable behaviors that represent superior, satisfactory, or unsatisfactory levels of crew coordination. These basic qualities and goals are summarized in each Aircrew Training Manual. (Refer to the USAAVNC Aircrew Coordination ETP for more detailed guidance). Commanders will use these performance descriptions in evaluating and qualifying all crewmembers.

ANNEX B

NIGHT VISION GOGGLES

Night operations are an integral part of Army aviation. Because the threat operates around the clock, aircrews must be able to conduct operations at night as well as during the day. Night vision devices enable Army aviation to operate around the clock. This chapter outlines NVG training, criteria, and procedures.

B-1. DEPARTMENT OF THE ARMY IMPERATIVES

a. NVG Qualification. The Department of the Army requires that all Active and Reserve Component rotary-wing aviators be NVG qualified. Waiver authority for this requirement will not be delegated below the MACOM level.

b. Designated NVG Positions.

(1) TOE aviation Brigade Commanders will establish NVG designated positions based on the unit's METL. They must designate at least 25% of the brigade's authorized RCM/NCM positions as NVG designated positions, except as follows.

- This requirement does not apply to fixed-wing RCMs, or AH-64 RCM positions.
- Commanders of Medium Lift Helicopter Companies must designate no less than 20% of authorized RCM/NCM positions as NVG designated positions.

NOTE: For example, the Brigade Commander may designate 90% of the positions in one battalion, 5% of the positions in another battalion and no positions in HHC. This may meet the DA standard as long as the brigade aggregate meets the requirements above.

(2) Units that do not fall under aviation brigade headquarters (for example, separate battalion and companies) must meet the DA required percentages in (1) above for the respective units. The designation of NVG positions in these separate units must be approved by an aviation colonel (O6 or higher in the chain of command.

B-2. AIRCREW NVG TRAINING

Before conducting NVG training, units must have a written SOP addressing aided and unaided specific topics outlined in TC 1-204. Other training requirements are outlined below.

a. NVG Annual Evaluation. The commander will designate a consecutive three-month period for crewmembers to complete their NVG Annual evaluation. The commander may align this evaluation period with the annual APART, or he may designate a separate three-month period for the evaluation. Record the dates on each crewmember’s DA Form 7120-R.

b. NVG Semiannual Training Periods. The commander may align the NVG semiannual training periods, or he may align them with the designated three-month NVG evaluation period. Document the crewmembers semiannual dates on the crewmember’s DA Form 7120-R.

c. Required Conditions.

(1) Units will conduct NVG RL training, APART evaluations, and currency evaluations at night in the aircraft under actual NVG conditions.

(2) RCMs must occupy a crew position with access to the flight controls for the following:

- During NVG qualification, refresher, and crew training.
- Logging of flight time towards flying hour and currency requirements.
- Completing ATP NVG task iteration requirements.
- For all NVG evaluations.

d. Readiness Level Designation. Use the procedures in paragraph 2-12 to determine a crewmember's initial NVG RL. Aviators in NVG designated positions must complete all required NVG training and evaluations prior to progression to RL 1(P) status.

NOTE: Some crewmembers may have more than one RL. For example, a crewmember not in a NVG designated position may be RL 1(P) and RL 3 in the same aircraft. RL 1(P) for aircraft continuation training, and RL 3 for NVG refresher training.

e. Currency. The currency hour and frequency requirements listed in B-3.d. and B-4.d. are the minimum requirements. Commanders will consider increasing the number of flight hours or reducing the time between NVG flights for less experienced or less proficient crewmembers.

NOTE: Before beginning NVG training, RCMs and NCMs must be qualified and current in the aircraft. Before beginning NVG crew training, RCMs and NCMs must be NVG current in the aircraft.

f. Tasks. Individual tasks for NVG initial qualification training, refresher training, and NVG aircraft qualification are listed in the appropriate ATM. Crew training includes commander designated crew and any additional tasks selected by the commander. Crew tasks are listed in the appropriate ATM and any additional tasks will be listed on the crewmembers CTL.

B-3. RATED CREWMEMBER TRAINING

a. Initial NVG Qualification, NVG Aircraft Qualification, and NVG Refresher Training. A crewmember is designated NVG RL 3 while undergoing initial NVG qualification, NVG aircraft qualification, or NVG refresher training. Crewmembers have 90 days to complete this training. However, they must demonstrate proficiency in all required tasks within a period of 45 consecutive days. The 45-day period is a "sliding window" within the 90-day progression period. Before their first NVG training flight, aviators must undergo a compatible simulator period or static aircraft training period in night conditions. There is no time requirement for this training period. The training period will include aircraft emergency procedures, NVG failure, and a blind cockpit drill or "switch locations". Units will conduct initial NVG qualification, NVG aircraft qualification and NVG refresher training according to this annex, the appropriate ATM, and the USAAVNC NVG TSP. The TSP will be used to conduct NVG academic training and may be obtained by writing to the Commander, US Army Aviation Center, ATTN: ATZQ-TDS-T, Ft Rucker, Al 36362-5000.

(1) Initial NVG qualification. This training qualifies aviators who are not NVG qualified. Initial NVG qualification requirements are listed below:

(a) All of an aviator's NVG training must be conducted in the same aircraft group.

(b) Aviators will complete a minimum of ten flight hours of training. An IP or SP will determine the aviator's proficiency by a single flight evaluation after training or by conducting a continuous evaluation throughout the training. The hours flown during the evaluation may be applied to the ten hour requirement.

(c) Successfully complete the NVG TSP training program and demonstrate proficiency in the NVG individual task requirements as outlined in paragraph B-2 f.

(d) Initial NVG qualification training will be documented on DA Form 7122-R and DA Form 759 on closeout.

(e) An IP or SP will conduct training only.

(f) When an aviator completes initial NVG qualification he does not need to be designated RL 2. Commanders may delay initial NVG crew training if the aviator is not in a NVG designated position and he does not require the aviator to fly NVGs.

(2) NVG aircraft qualification. Aviators must be NVG qualified in each aircraft in which they perform NVG duties. To be NVG aircraft qualified, an aviator must complete 6 hours of flight training and demonstrate proficiency in all NVG individual tasks as outlined in Chapter 2 of the appropriate ATM. The evaluation may be continuous.

(3) NVG refresher training. Aviators NVG qualified in the aircraft must undergo refresher training when designated NVG RL 3. This requirement applies to primary, alternate, or additional aircraft. To complete refresher training, aviators must complete 6 hours of flight training and demonstrate proficiency in all NVG individual tasks as outlined in the appropriate ATM. The evaluation may be continuous.

b. NVG Crew Training. The goal of NVG crew training is proficiency in commander designated crew and any additional tasks selected by the commander.

(1) Aviators who have not previously completed NVG crew training in a similar aircraft as defined in AR 95-1 must complete a minimum of 4.5 hours of NVG crew flight training. A NVG UT may conduct this training. This requirement does not apply to AH-64 aviators. Hour requirements may not be performed concurrent with qualification or refresher training.

(2) To complete crew training, an aviator must demonstrate proficiency in commander designated crew and any additional tasks selected by the commander. Initial NVG crew training will be documented on DA Form 7122-R and DA Form 759 on close out.

(3) An IP or SP will determine the aviator's proficiency by a single flight evaluation after training or by conducting a continuous evaluation throughout the training.

c. NVG Continuation Training.

RL 1 (P/T) RCMs or DACs assigned to a NVG designated position or RL 1(P/T) NVG PCs (regardless of position) must meet the following requirements:

(1) Aviators must complete a minimum of eighteen hours of NVG flight semi-annually, at night, in the aircraft. Commanders may not reprogram these hours. The commander will determine NVG semi-annual flying hour requirements for AH-64 aviators.

(2) Aviators may apply up to six hours flown in a compatible visual flight simulator in NVG conditions toward the semi-annual requirement.

(3) Minimum task and iteration requirements are specified on each aviators CTL and additional/alternate aircraft.

d. NVG Currency.

(1) To be considered NVG current, aviators must participate every 60 days in a one-hour flight at night in the aircraft while wearing NVGs.

(2) Aircraft flight hours completed for currency must be in the same aircraft group IAW AR 95-1.

(3) Aviators whose currency has lapsed must complete a NVG proficiency evaluation given at night in the aircraft by an NVG IP or SP. The minimum tasks to be evaluated are those indicated as NVG individual task and any commander designated crew or additional task as listed on the RCMs CTL.

NOTE: An NVG IP/SP may reestablish his currency by receiving an evaluation from another NVG IP or SP. An IP may not evaluate an IP or SP for NVG or no-notice evaluations.

B-4. NONRATED CREWMEMBER TRAINING

a. Initial NVG Qualification, NVG Aircraft Qualification, and NVG Refresher Training. A non-rated crewmember is designated NVG RL 3 while undergoing initial/aircraft NVG qualification, or NVG refresher training. NCMs have 90 days to complete this training. However, they must demonstrate proficiency in all required tasks within a period of 45 consecutive days. The 45-day period is a "sliding window" within the 90-day progression period. Before their first NVG training flight, NCMs must undergo a static aircraft training period in night conditions. There is no time requirement for this training period. The training period will include aircraft emergency procedures, egress procedures, NVG failure, and a blind cockpit drill or “switch

(1) Initial NVG qualification. This training qualifies NCMs who are not previously NVG qualified. Units will conduct initial NVG qualification training according to this ANNEX, the appropriate ATM, and the USAAVNC NVG TSP. The TSP may be obtained by writing to the Commander, US Army Aviation Center, ATTN: ATZQ-TDS-T, Fort Rucker, Alabama 36362-5000. Initial NVG qualification requirements are listed below:

(a) All of an NCMs NVG training must be conducted in the same aircraft group.

(b) NCMs will complete a minimum of eight flight hours of flight training. An IP, SP, FI, or SI will determine the NCMs proficiency by a single flight evaluation after training or by conducting a continuous evaluation throughout the training. The hours flown during the evaluation may be applied to the eight hour requirement.

(c) Successfully complete the NVG TSP training program and demonstrate proficiency in all of the NCMs NVG individual tasks as outlined in the appropriate ATM. The NCM must also demonstrate crew coordination and airspace surveillance in all of the RCMs NVG individual tasks.

(d) Initial NVG qualification training will be documented on DA Form 7122-R and DA Form 759 on closeout.

(e) Training will be conducted by only an IP, SP, FI or SI.

(2) NVG aircraft qualification. NCMs must be NVG qualified in each aircraft in which they perform NVG duties. To be NVG aircraft qualified, an NCM must complete 4.5 hours of flight training and demonstrate proficiency in all the NCMs NVG individual tasks as outlined in the appropriate ATM. The NCM must also demonstrate crew coordination and airspace surveillance in all of the RCMs NVG individual tasks. The evaluation may be continuous.

(3) NVG refresher training. NCMs NVG qualified in the aircraft must undergo refresher training when designated NVG RL 3. This requirement applies to primary, alternate, or additional aircraft. To complete refresher training, NCMs must complete 4.5 hours of flight training and demonstrate proficiency in all of the NCMs NVG individual tasks as outlined in the appropriate ATM. The NCM must also demonstrate crew coordination and airspace surveillance in all of the RCMs NVG individual tasks. The evaluation may be continuous.

b. NVG Crew Training. The goal of NVG crew training is proficiency in commander designated crew and any additional tasks selected by the commander.

(1) NCMs who have not previously completed initial NVG crew training in a similar aircraft as defined in AR 95-1 must complete a minimum of 4.5 hours of NVG flight training, demonstrate proficiency in commander designated crew and any additional tasks selected by the commander. This hour requirement may be performed concurrently with qualification/refresher training.

(2) To complete crew training, an NCM must demonstrate proficiency in commander designated crew and additional tasks selected by the commander. Initial NVG crew training will be documented on DA Form 7122-R and DA Form 759 on closeout.

(3) An IP, SP, FI, or SI will determine the NCMs proficiency by a single flight evaluation after training or by conducting a continuous evaluation throughout training.

(4) During NCM training or evaluations the trainer or evaluator will not occupy a crew position with access to the flight controls.

c. NVG Continuation Training.

(1) NCMs must complete a minimum of eight hours of NVG flight semi-annually, at night, in the aircraft while performing crew duties.

(2) Minimum task and iteration requirements are specified on each NCMs CTL.

d. NVG Currency.

(1) To be considered NVG current, NCMs must participate every 60 days in a one-hour flight at night in the aircraft while wearing NVGs and performing crew duties.

(2) Aircraft flight hours completed for currency must be in the same aircraft group IAW AR 95-1.

(3) NCMs whose currency has lapsed must complete a NVG proficiency evaluation given at night in the aircraft by an NVG IP, SP FI, or SI. The minimum tasks to be evaluated are those indicated as NCM NVG individual task, demonstrate crew coordination and airspace surveillance in all of the RCMs NVG individual tasks and any commander designated crew or additional task as listed on the NCMs CTL.

(4) An NVG FI/SI may reestablish his currency by receiving an evaluation from another NVG FI, SI, IP, or SP. An FI may not evaluate an FI or SI for NVG Annual no-notice evaluations.

B-5. NONRATED CREWMEMBER NVG INSTRUCTOR

The unit commander appoints an NVG FI to assist in the implementation and evaluation of NVG qualification, refresher, crew and sustainment training for NCMs.

a. Prerequisites. FIs must be qualified and current in the aircraft in which he is to perform NVG FI and NCM duties IAW AR 95-1. The FI must be designated on flight status orders IAW AR 600-106.

b. Qualification Requirements. To be designated an NVG FI, individuals must:

(1) Receive training in the areas in which they will instruct and evaluate.

(2) Complete an NVG FI flight evaluation. (An NVG IP, SP, or SI will administer the FI flight evaluation in the aircraft at night. This evaluation will consist of all NCM NVG individual tasks, all RCMs NVG individual task for crew coordination and airspace surveillance, and any crew /additional tasks designated by the commander.

(3) Be designated by the commander on DA Form 7120-R.

B-6. NONRATED CREWMEMBER NVG STANDARDIZATION INSTRUCTOR

NVG SIs provides technical supervision of the NCM NVG standardization program for unit commanders.

a. Prerequisites. The SIs must be qualified and current in the aircraft in which he is to perform NVG SI duties IAW AR 95-1. In addition, an NVG SI must meet NVG FI requirements before being designated an NVG SI. The SI must be designated on flight status orders IAW AR 600-106.

b. Qualification Requirements. To be designated an NVG SI, individuals must:

(1) Receive training in the areas in which they will instruct and evaluate.

(2) Complete an NVG SI flight evaluation. An NVG IP, SP, or SI will administer the SI flight evaluation in the aircraft at night. This evaluation will consist of all NCM NVG individual tasks, all RCMs NVG individual task for crew coordination and airspace surveillance, and any crew /additional tasks designated by the commander.

(3) Be designated by the commander on DA Form 7120-R.

B-7. NVG PILOT IN COMMAND

An NVG PC must be trained and evaluated to perform tasks during the day before performing tasks using NVGs. The NVG PC who is not an NVG UT, IP, or SP is prohibited from conducting NVG crew (RL 2 progression) training.

a. Prerequisites. The aviator must be a qualified PC in the aircraft in which he is to perform NVG PC duties. He must also be NVG qualified and current in the aircraft in which he performs PC duties.

b. Qualification Requirements. To be designated an NVG PC, aviators must—

(1) Receive training in the areas in which he will perform PC duties.

(2) Complete an NVG PC flight evaluation. An NVG IP or SP will administer the PC flight evaluation in the aircraft at night. This evaluation will consist of all the NVG individual tasks and any other crew additional tasks designated by the commander.

(3) Be designated by the commander on DA Form 7120-R.

B-8. NVG UNIT TRAINER

NVG UTs are appointed by the unit commander to assist in aviator NVG individual, crew and mission sustainment training. They also assist with the academic portion of NVG qualification or refresher training. NVG UTs are prohibited from conducting emergency procedures training, NVG qualification and refresher training, and other training that specifically requires an NVG IP or SP. The NVG UT may conduct NCM academic and flight training. However, during NCM training an NVG UT will not occupy a crew position with access to the flight controls.

a. Prerequisites. The aviator must be a qualified and current PC in the aircraft in which he is to perform NVG UT duties IAW AR 95-1. In addition, an NVG UT must meet NVG PC requirements before being designated an NVG UT.

b. Qualification Requirements. To be designated as a NVG UT, aviators must -

(1) Receive training in the areas in which he will instruct to include academic training on fundamentals of instruction.

(2) Complete an NVG UT flight evaluation. An NVG IP or SP will administer the NVG UT evaluation in the aircraft at night. This evaluation will consist of all NVG tasks that he is authorized to instruct.

(3) Be designated by the commander on DA Form 7120-R.

B-9. NVG INSTRUCTOR PILOT

a. Prerequisites. The aviator must be a qualified and current IP in the aircraft in which he is to perform NVG IP duties IAW AR 95-1. In addition, an NVG IP must meet NVG PC requirements before being designated an NVG IP.

b. Qualification Requirements. To be designated as a NVG IP, aviators must –

(1) Receive training in the areas in which he will instruct.

(2) Complete an NVG IP flight evaluation. An NVG SP will administer the NVG IP evaluation in the aircraft at night. This evaluation will consist of all NVG individual tasks, and any crew/additional tasks designated by the commander.

(3) Be designated by the commander on DA Form 7120-R.

B-10. NVG STANDARDIZATION INSTRUCTOR PILOT

NVG SPs provide technical supervision of the unit's NVG standardization program for the commander.

a. Prerequisites. The aviator must be a qualified and current SP in the aircraft in which he is to perform NVG SP duties IAW AR 95-1. In addition, an NVG SP must meet NVG IP requirements before being designated an NVG SP.

b. Qualification Requirements. To be designated as a NVG SP, aviators must –

(1) Complete an NVG SP flight evaluation. An NVG SP will administer the NVG SP evaluation in the aircraft at night. This evaluation will consist of all NVG individual tasks, and any crew/additional tasks designated by the commander.

(2) Be designated by the commander on DA Form 7120-R.

B-11. NVG ANNUAL EVALUATION

a. All crewmembers that fly with NVGs must undergo an NVG Annual evaluation. The evaluation is required for each aircraft group in which the crewmember performs duties. The crewmember will undergo the evaluation during the period described in paragraph B-2a. For RCMs, an NVG IP or SP conducts the evaluation. An NVG IP, SP, SI, or FI conducts the evaluation for NCMs.

b. The tasks for the NVG Annual evaluation will include all NVG individual tasks and any crew or additional task selected by the commander.

c. The provisions above apply to all crewmembers designated NVG RL 1 (P) or RL 1 (T) during their designated NVG Annual evaluation period.

B-12. ADDITIONAL CREWMEMBER REQUIREMENTS

a. Single-Aircraft Operations.

(1) UH-1, UH-60, and CH-47 single-aircraft operations involving the use of NVGs require at least three crewmembers that are NVG current and qualified in the aircraft. Exceptions are UH-1 and UH-60 operations conducted at USAAVNC or NGB centralized training bases (WAATS and EAATS) in support of USAAVNC approved programs of instruction. Rated aviators who are occupying crew positions with access to the flight controls and are undergoing RL training with an IP, SP, or a UT satisfy the three crew member requirement.

(2) Exceptions are also for air ambulance operational missions that require NCMs to perform medical duties. The aircrew in such cases still must be NVG qualified and current. The third crewmember clears the aircraft, maintains aircraft separation, and so on until an on-board medical emergency requires reassignment of priorities.

(3) EH-60 operational missions will have a qualified and current NCM serving as observer until the aircraft ascends above terrain flight altitude and the PC directs the NCM to begin aircraft specific missions.

b. Multi-Aircraft/Formation Flight. The two aviators flying UH-1, UH-60 and CH-47 aircraft during aided multi-aircraft operations will be supplemented with additional crewmembers as indicated below.

(1) UH-1 and UH-60 series. These aircraft require one additional crewmember wearing NVGs (for a minimum crew of three). If both sides of the aircraft cannot be observed when necessary, a fourth crewmember wearing NVGs must be added. The PC will brief all crewmembers on crew duties and assign each crewmember a sector for visual observation. The additional crewmembers may be an RCM or NCM, but must be NVG current and meet the requirements of AR 95-1.

(2) CH-47 series. These aircraft require two additional crewmembers wearing NVGs (for a minimum crew of four). The PC will brief all crewmembers on crew duties and assign each crewmember a sector for visual observation. The fourth crewmember may be an RCM or NCM, but must be NVG current and meet the requirements of AR 95-1.

B-13. GENERAL NVG REQUIREMENTS

a. To be considered AN/AVS-7 (ANVIS HUD) qualified, a crewmember qualified in the AN/AVS-6 series NVG must receive additional academic and flight instruction on the AN/AVS-7. Chapter 2 of the appropriate ATM outlines the HUD qualification training program. Once qualified in the AN/AVS-7, crewmembers have no additional currency requirements.

NOTE: After crewmembers complete AN/AVS-6 initial qualification, units will ensure that an entry is made on the crewmember's DA Form 7122-R and transcribed to the DA Form 759 on closeout.

b. Aircraft with different night vision devices (PNVS and ANVIS) will maintain a minimum horizontal separation between aircraft of five rotor diameters. They may reduce this five-rotor separation to no less than one rotor disk during takeoffs and landings.

c. Single-pilot NVG flight is prohibited unless certain requirements are met. These requirements are:

(1) The pilot of an AH-64, operating the PNVS, may be assisted by the CPG operating under the AN/AVS-6. Pilots will not fly AH-64 aircraft with an inoperative PNVS using NVG only.

(2) The pilot of an AH-1 continues to operate under NVG when the CPG flips up the ANVIS during actual or simulated weapons engagements.

d. NVG terrain flight is defined as flight at 200 feet or less above the highest obstacle. Airspeed and altitude restrictions are:

TERRAIN FLIGHT MODE	ALTITUDE	MAXIMUM AIRSPEED
NOE Flight	Skids or wheels up to 25 feet above the trees, vegetation, or terrain in the flight path	40 KIAS
Contour Flight	Skids or wheels between 25 and 80 feet AHO	70 KIAS
Low-level Flight	Skids or wheels between 80 and 200 feet AHO	Airspeed dictated by operational requirements and aircraft limitations

Table B-1, NVG Terrain Flight Altitude, and Airspeed Restrictions.

NOTE: The airspeeds in Table B-1 should be decreased if inclement weather or ambient light levels restrict visibility.

e. Authorized formations for NVG or night multi-aircraft operations are -

(1) Altitudes above 80 feet AHO -

- Straight Trail
- Free Cruise
- Staggered formation
- Echelon formation

(2) Altitudes of 80 feet AHO and below - Free cruise formations in conjunction with techniques of movement.

NOTE: A formation is a flight in which two or more aircraft are in such proximity to each other that any movement by the lead aircraft must be duplicated by the others.

f. At no time in flight formation will a lead change be initiated by executing an acceleration to overtake the lead aircraft. Only the lead aircraft will give the signal to initiate lead changes. Lead changes will be conducted as prescribed in the mission brief. Chalk 2 will acknowledge the lead's signal. The lead will make a heading change of 30 to 90 degrees and depart the formation. The lead then will maneuver the aircraft a minimum of eight rotor disks to the cleared side. Chalk 2, who becomes the new lead, determines and announces that the former lead is clear of the formation. The former lead will visually confirm the passing of each aircraft in the formation. After the last aircraft has passed, the former lead will assume the trail position with the appropriate rotor separation and aircraft lighting configuration.

g. During NVG or night multi-aircraft operations, aircraft will maintain a minimum separation of three rotor disks. Crewmembers may reduce this separation to no less than one disk during takeoffs and landings.

h. A searchlight or landing light, which has been modified with an infrared band-pass filter, must be installed on the aircraft and operational before aircrews conduct NVG operations. If the IR band-pass filter becomes inoperative during a mission, the PC will evaluate the impact on mission accomplishment. PC actions may vary from a minor mission adjustment to termination of the flight.

NOTE: The criteria in paragraph i. above does not apply to AH-64 aircraft. The PNVS is the primary night sensor, and the AN/AVS-6 is a supplemental night vision aid.

i. Daylight filter training is prohibited. Units in geographical areas with insufficient darkness over extended periods, and without compatible visual flight simulators available, should request a waiver for NVG currency. Waiver authority for this requirement will not be delegated below the MACOM level.

j. Specific supplemental lighting configurations authorized by unit commanders must be defined in the unit SOP.

ANNEX C

AIRCREW TRAINING RECORDS

C-1. INDIVIDUAL AIRCREW TRAINING FOLDER (IATF)

The Aircrew Training Program (ATP) records system provides commanders a comprehensive performance record on each crewmember in their unit. Blank copies of the required forms are at the back of this training circular. Reproduce locally on 8 ½ by 11inch paper using a copier, computer or other means as specified by AR 25-30. However, the forms must retain their original format. Complete by hand using dark blue or black ink, by typewriter, or by computer. The forms are available in PerFORM PRO Filler, FormFlow, or for Reserve Component Automation System (RCAS), JetForm format. They are also available as a Microsoft Word template. These records are important as quality control and standardization tools. Fill out carefully, completely, and legibly. The examples of completed DA forms illustrate the intent of the written instructions. They may not cover every possible situation. Use the Remarks section of the forms and/or the comment slip to explain situations not clearly covered by the written guidelines.

a. Commanders must ensure that an IATF is prepared and maintained for each rated and non-rated crewmember in an operational /designated flying position, assigned or attached to their unit, as reflected in Figure C-1. Commanders must establish and maintain an IATF for each non-crewmember performing crew duties. Use DA Form 3513 (Individual Flight Records Folder, United States Army). Prepare it by modifying the words, "flight records" on the front cover to read, "aircrew training".

b. At the completion of the training year, forward the DA Form 7120 to flight operations for DA Form 759 closeout. Flight operations will return the DA Form 7120 for filing in the crewmember's IATF. The DA Form 7122 will remain in the crewmember's IATF.

c. After an individual's, release from active duty, retirement, discharge, resignation, assignment to the USAR control group, or death, process the IATF according to AR 95-1.

Left Side of Folder	Right Side of Folder
File items in the order listed.	File items in the order listed.
1. Current DA Form 7120-R (Commander's Task List)	
2. Current DA Form 7120-1-R (Crewmember Evaluation Requirements).	1. DA Form 7122-R (Crewmember Training Record).
3. Current DA Form 7120-2-R (7120-1 Continuation Sheet; *only if required*).	2. Grade slips (DA Form 4507-R-E through 4507-2-R-E) for qualification, individual, crew, collective and refresher training, etc. Maintain in the IATF until completion of the next APART.
4. Current DA Form 7120-3-R (Crewmember Exercise/Task Iteration Requirements).	3. Miscellaneous.
5. Current DA Form 7120-4-R (Crewmember Exercise/Task Iteration Requirements Continuation).	
6. Current DA Forms 7120-5-R (Crewmember Additional Training/Evaluation Requirements –Certification)	
7. Current DA Forms 7120-6-R (Crewmember Company Collective Requirements)	
8. Current DA Forms 7120-7-R (Crewmember Battalion Collective Requirements)	
9. Preceding DA Forms 7120-R through 7120-7-R	

Figure C-1. Individual aircrew training folder contents

C-2. DA FORM 7120-R (COMMANDER'S TASK LIST (CTL)

a. The Commander's Task List consists of DA Form 7120-R and all enclosures. Commanders use DA Form 7120-R and DA Forms 7120-1-R, 7120-2-R, 7120-3-R and 7120-4-R to inform crewmembers of their ATP requirements and to designate authorized flight duties, stations and tasks. A separate DA Form 7120-R series is required for each primary, additional, and alternate aircraft in which the crewmember performs duties. For ATP purposes, consider the UH-60A, UH-60L, UH-60Q, EH-60, AH-64A and the AH-64D as separate and distinct aircraft. Crewmembers performing crew duties in the previous mentioned aircraft must maintain a DA Form 7120 series for each aircraft.

NOTE: The unit commander may authorize tasks and or missions not indicated on the CTL by briefing them and annotating such on the mission briefing form.

b. Commanders may amend the DA Form 7120-R and associated enclosures throughout the crewmember's ATP training year. They must, however, initial and date all changes to the form and its enclosures to certify their approval. Place initials and date next to the change. Units will initiate a new DA Form 7120-R when-

(1) The crewmember is integrated into the unit's ATP.

(2) The crewmember begins a new ATP training year.

(3) Amendment of the existing DA Form 7120-R is impractical. Clearly mark the amended copy on the top of the form as "Amended Copy". Retain the unusable 7120-R as the last item in the left side of the IATF.

NOTE: If a change in unit command occurs during the ATP year, the existing DA Form 7120-R and enclosures remain in effect until a new form is initiated for one of the three reasons above.

c. If the crewmember's authorized flight duties/stations, flying-hour requirements, or evaluation requirements change during the ATP training year, enter the change in Part II, III or IV of the DA Form 7120-R as appropriate. The unit commander must initial and date the change and explain it in the Remarks column. Use the Remarks section of DA Form 7120-3-R as required for additional space.

C-3. DA FORM 7120-R, INSTRUCTIONS

a. Part I. Biographical.

PART I. BIOGRAPHICAL		
Name: **(1)** *Smith, John D.*	Rank: **(2)** *LTC*	SSN: **(3)** *123-45-6789*
Birth Month: **(4)** *Jan*	FAC: **(5)** *1*	Duty Title: **(6)** *Bn CDR*
NVG Position: **(7)** ☐ Yes ☐ No	**(8)** Aircraft Type: *AH-64A* ☐ Primary ☐ Additional ☐ Alternate	

Figure C-2, DA FORM 7120-R Biographical

(3) Name. Enter the crewmember's name (last, first, middle initial).

(1) Rank. Enter the crewmember's rank (WO1, CW2, CPT etc).

(2) SSN. Enter crewmember's social security number.

(3) Birth Month. Enter the crewmember's birth month.

(4) FAC. Enter the crewmember's flight activity category.

(5) Duty Title. Enter the crewmember's primary duty title per MTOE or TDA (for example, Company Aviation Safety Officer).

(6) NVG Position. Place an "X" in the appropriate box to show whether the crewmember is in a designated NVG position. Leave blank for those units without NVG designated positions.

(7) Aircraft Type. Enter the aircraft designation to which the DA Form 7120-R applies. Place an "X" in the appropriate box to show that this is the crewmember's primary, additional, or alternate aircraft.

b. Part II. Authorized Flight Duties/Stations. Place an "X" in the appropriate blocks to show the authorized crewmember duties. Explain any authorization to perform OR duties in the Remarks column per AR 600-106.

PART II. AUTHORIZED FLIGHT DUTIES/STATIONS

(1) Duty Station	PI	PC	UT	IP	SP	IE	MP	ME	XP	CE	FE	FI	SI	AO	MO	TO	OR	**(4)** Remarks
Right / (Back Seat)	X	X		X	X	X / 17 May 99 TCC T66												IE orders revoked
Left / (Front Seat)	X	X		X	X	X 17 May 99												17May 99
(2) Other																		Tom Crews, CPT AV
					1 TCC													
(3) NVG				X	17 May 99													1. See 7122, TCC

Indicate initial crew duty station(s) and duties above, initial subsequent designations and changes.

Commander's Signature	Crewmember's Signature	Date
(5) Tom C Crews	Inna G Pilot	14 Apr 99

Figure C-3, PART II. AUTHORIZED FLIGHT DUTIES/STATIONS

(1) Duty Station. Place an "X" in the authorized crew duty for that position.

(2) Other Station(s). List other/additional authorized duties or duty stations in the aircraft cabin or other appropriate crewmember station. Place an "X" in the authorized crew duty for that position. The unit commander must initial and date changes made after initial designations.

(3) NVG. Mark the duties authorized using night vision goggles.

(4) Remarks. Enter sufficient remarks to explain changes made to designated crew duties and or duty stations after this forms initiation.

(5) Commander and the crewmember must sign acknowledging the crewmembers duty position(s) and duties will undergoing progression training.

c. Part III. Flying-Hour Requirements. Individual flying hour requirements are derived for the ATM and broken down into three segments, Annual, First Training Period and Second Training Period. Compute training period inclusive dates for two conditions, Initial Designation and Annual Designation. (Figures C-4 through C-13)

(1) Initial Designation, the date a crewmember is first designated RL 1(P) or FAC 3 after integration into the units ATP.

(a) Annual Training Period. The normal annual training period goes from the first day of the month following an individuals birth month through the last day of his next birth month. When initially designated RL 1(P) or FAC 3, the Annual Training Period will be from that day, month and year until the last day of his birth month and the year of his next birthday. Only the month and year are required for all training period end dates, the last day of the month is assumed.

Example: Crewmember birth month, Jan
Designated RL 1(P), 17 May 98
Annual Training Period, 17 May 98 to Jan 99

PART III. FLYING-HOUR REQUIREMENTS				
	Annual	First Period	Second Period	
Dates:	*17 May 98 Jan 99*			Remarks/Adjustments

Figure C-4, PART III. FLYING-HOUR REQUIREMENTS

(b) First Training Period. The first training period is normally the first six months of an individual's annual training period. If initial designation occurs during the normal first period, the first training period will be from that date through the end of the normal training period. If the crewmember is designated RL 1(P) during his second training period, leave the date blocks blank in the first training period.

Example: Crewmember birth month, Jan
Designated RL 1(P), 17 May 98
First Training Period, 17 May 98 to Jul 98

PART III. FLYING-HOUR REQUIREMENTS				
	Annual	**First Period**	Second Period	
Dates:	17 May 98 -Jan 99	17 May 98 -Jul 98		Remarks/Adjustments

Figure C-5

(c) Second Training Period. The second training period is normally the last six months of an individual's annual training period. Since initial designation in this case was during the normal first period, the individual will have a complete second training period.

Example: Crewmember birth month, Jan
Designated RL 1(P), 17 May 98
Second Training Period, Aug 98 to Jan 99

PART III. FLYING-HOUR REQUIREMENTS				
	Annual	First Period	Second Period	
Dates:	*17 May 98 Jan 99*	*17 May 98 Jul 98*	***Aug 98 -Jan 99***	Remarks/Adjustments

Figure C-6

(2) Annual Designation. Annual Designation is the initiation of a new DA Form 7120-R after the crewmembers annual close out. Under this condition, the normal training period dates are used.

(a) Annual Training Period. The first day of the month following the individual's birth month through the end of his next birth month and year.

Example: Crewmember birth month, Jan

Annual Close out, 31 Jan 99
Next Annual Training Period, 1 Feb 99 to Jan 00

PART III. FLYING-HOUR REQUIREMENTS				
	Annual	First Period	Second Period	
Dates:	*1 Feb 99 Jan 00*	-	-	Remarks/Adjustments

Figure C-7

(b) First Training Period. The first day of the month following the individual's birth, through the end of the sixth month following his birth month.

Example: Crewmember birth month, Jan
Annual Close out, 31 Jan 99
First Training Period, 1 Feb 99 to Jul 99

PART III. FLYING-HOUR REQUIREMENTS				
	Annual	First Period	Second Period	
Dates:	*1 Feb 99 Jan 00*	***1 Feb 99 Jul 99***		Remarks/Adjustments

Figure C-8

(c) Second Training Period. The first day of the seventh month following the individual's birth, through the end of his next birth month and year.

Example: Crewmember birth month, Jan
Annual Close out, 31 Jan 99
Second Training Period, Aug 99 to Jan 00

PART III. FLYING-HOUR REQUIREMENTS				
	Annual	First Period	Second Period	
Dates:	*1 Feb 99 Jan 00*	*1 Feb 99 Jul 99*	*Aug 99 Jan 00*	Remarks/Adjustments

Figure C-9

(3) Total Aircraft Hours. Multiply the appropriate C-Level and FAC Level Live OPTEMPO requirement times the number of whole months in the training period. The examples shown are an AH-64A Attack Battalion maintaining C-2 requirements. Annual requirements are the total of the first and second training periods.

Example: AH-64A Aviator
Birth Month, Jan
Designated RL 1(P) FAC 1, 17 May 98
First Period, 2 months (2 x 15.49 = 30.98 hrs = 31 hrs)
Second Period, 6 months (6 x 15.49 = 92.94 = 93 hrs)
Annual Training Period, (31.0 + 93.0 = 124.0)

PART III. FLYING-HOUR REQUIREMENTS				
	Annual	First Period	Second Period	
Dates:	*17 May 98 Jan 99*	*17 May 98 Jul 98*	***Aug 99*** *Jan 99*	Remarks/Adjustments
Total Aircraft Hours	124.0	31.0	93.0	

Figure C-10

(4) 25% Reduction. If reducing an individual flying hours by 25% to give to an individual requiring more training, indicate so in the remarks section. Factor each training period separately. Multiply the crewmembers standard FAC 1 flying hours by .75 and round up, the result is his reprogrammed flying hours. Transfer the difference between the standard and the reprogrammed hours.

PART III. FLYING-HOUR REQUIREMENTS				
	Annual	First Period	Second Period	
Dates:	*17 May 98 Jan 99*	*17 May 98 Jul 98*	***Aug 99 Jan 99***	Remarks/Adjustments
Total Aircraft Hours	*92.0*	*23.0*	*69.0*	*25% Xfer to WO1 D Smith*

Figure C-11

NOTE: See paragraph Chapter 2, paragraph 2-11 b. for instructions on prorating flying hour and iteration minimums.

(5) Conditional Hours. Enter the flying hours-required under specific conditions as required by the ATM, Aviation CATS or MACOM/Local directives. The commander may also enter similar aircraft flying hour requirements in the "other hours" block if applicable When prorating, do not reduce requirements below 1 hour.

PART III. FLYING-HOUR REQUIREMENTS				
	Annual	**First Period**	**Second Period**	
Dates:	*17 May 98 Jan 99*	*17 May 98 Jul 98*	***Aug 99 Jan 99***	Remarks/Adjustments
Total Aircraft Hours	*92.0*	*23.0*	*96.0*	
Conditional Hours				
Night Unaided Hours:	*8.0*	*2.0*	*6.0*	*Local SOP*
NVD Hours:				
NVG Hours:				
Hood/Weather Hours:				
MOPP Hours:				
Other Hours:				

Figure C-12

(6) Simulator and AVCATT Hours. Multiply the appropriate C-Level and FAC Level Simulator/AVCATT OPTEMPO requirement times the number of whole months in the training period. Annual requirements are the total of the first and second training periods. AH-64A Simulator OPTEMPO FAC1 = 3.0 hrs, AVCATT OPTERMPO 2.82 hrs.

	Annual	First Period	Second Period	
Dates:	*17 May 98 Jan 99*	*17May 98 Jul 98*	***Aug 99 Jan 99***	Remarks/Adjustments
Simulator Hours:	*24.0*	*6.0*	*18.0*	
AVCATT Hours:	*23.0*	*6.0*	*17.0*	

Figure C-13

d. Part IV, Enclosures. DA Forms 7120-1-R, 7120-2-R, 7120-3-R, 7120-4-R and 7120-5-R will be Enclosure 1, 2, 3, 4 and 5 respectively. Check the block if the form is included as an enclosure. The commander may include additional enclosures as required. Enter the form number or title of these enclosures on the "Other" lines.

PART IV. ENCLOSURES
☐ 1. DA Form 7120-1-R (Crewmember Evaluation Requirements)
☐ 2. DA Form 7120-2-R (Crewmember Annual Evaluation Requirements Continuation Sheet)
☐ 3. DA Form 7120-3-R (Crewmember Iteration Requirements)
☐ 4. DA Form 7120-4-R (Crewmember Additional Training / Evaluation Requirements and Certification)
☐ 5. DA Form 7120-5-R (Company / Battalion Collective Mission Requirements)
☐ 6.
☐ 7.

Figure C-14

e. Part V, Certification. Enter the commander's first, MI, last name, rank and branch. After the commander signs and dates the form, have the crewmember sign and date it. When the crewmember is a company or battalion commander, his commander will sign the certification in the commander block. On initial RL 1(P) or FAC 3 designation forms that date is also, the certifications date. The certification date on an annual is the first day of the annual training period.

PART V. CERTIFICATION		
This form, its enclosure(s) record your minimum training requirements. The Combined Arms Training Strategy (CATS) and the Aircrew Training Manual (ATM) establish your Aircrew Training Program (ATP) requirements.		
Commander: Thomas C Crews, CPT, AV	**Signature:** Thomas C Crews	**Date:** *17 May 98*
I certify that I have read and understand my ATP requirements recorded on this form, its enclosure(s), the Combined Arms Training Strategy (CATS) and the Aircrew Training Manual (ATM).		
Crewmember's Signature: Imma G Pilot		Date: 17 May 98

Figure C-15

C-4. DA FORM 7120-1-R (CREWMEMBER TASK PERFORMANCE EVALUATION REQUIREMENTS)

DA Form 7120-1R details the individual, crew, and additional task performance and evaluation requirements for each crew member.

a. Name, Rank, SSN: Enter the crewmember's name (last, first, middle initial), rank, and social security number.

b. Aircraft Type: Enter the aircraft designation for which the DA Form 7120-1-R applies.

block is checked, each additional task(s) and conditions for evaluation must be listed in the Additional Evaluation Tasks section.

REQUIREMENT	Designated Period	Completed	**Remarks/Adjustments**
NBC Evaluation	*11 Nov 98 - Jan 99*	*7 Dec 98*	☐ Task Requirements Per ATM ☐ ATM tasks plus additional
Other *Buffer Zone Eval*	*11 Nov 98 - Jan 99*		*Local SOP*

Figure C-18

g. Additional Evaluation Tasks. List additional required evaluation tasks by Task number, Task Title and evaluation condition/mode. In the remarks column indicate the source/reference for the task, condition and standard.

ADDITIONAL EVALUATION TASKS							
Task #	Task Title	Day	N/U	NVD	NBC	SIM	Remarks
3001	*Conduct unobserved radar suppression*			X		X	*Brigade ATP/SOP*

Figure C-19

h. Additional Remarks. Use as required to fully explain changes, remarks and or adjustments.

i. Page____of ____ Indicate each page number and total number of pages used to list all additional evaluation tasks. If just a single 7120-1-R were required, it would be Page 1 of 1. Use as many DA Form 7120-2-Rs as needed to list all the additional required evaluation tasks.

C-5. DA FORM 7120-2-R (Crewmember Task Performance and Evaluation Requirements Continuation Sheet)

Use as necessary to list additional tasks when there is insufficient room on the DA Form 7120-1-R. Record appropriate number of pages at the bottom of the form The heading is self-explanatory.

C-6. DA FORM 7120-3-R (Crewmember Task Performance and Evaluation Requirements Remarks and Certification)

a. Enter the crewmembers "Name".

b. Individual Training Exercises. The required number of individual iterations are included as an annex in each ATM. The example provided shows just the first semi-annual training period. In the example, the crewmember must fly a minimum of one instrument training scenario each semi-annual, but must fly three instrument training scenarios annually. The crewmember is scheduled to fly one instrument training exercise during his first training period. To meet his annual requirement, he must fly two instrument training exercises during his second training period. Proration of ATM mandated individual training exercises is authorized. Reprogramming of ATM mandated individual training exercises is not authorized.

Exercise Task Requirement	Frequency Requirement					1st Quarter									2nd Quarter								
						Feb			Mar			Apr			May			Jun			Jul		
Individual Training	M	Q	SA	A	S	D	N	S	D	N	S	D	N	S	D	N	S	D	N	S	D	N	S
Instruments			1	3	3							1					1						1
	Events Flown											**1**								**1**			**1**
Emergency Procedure Training			1	3					1				1										
	Events Flown								**1**				**1**										
Basic Airmanship			1	3	3								1								1		
	Events Flown												**1**									**1**	
Opposite Seat Fam				1	1																	1	1
	Events Flown																					**1**	**1**

Figure C-20

NOTE: M = Monthly minimum aircraft requirement, Q = Quarterly minimum aircraft requirement, SA = Semi-Annual minimum aircraft requirement, A = Annual minimum aircraft requirement, S = Annual Individual/Crew Simulation requirement.

(1) Event Scheduling. Schedule training events as evenly as possible during the training period. When the ATM requirement indicates only an annual iteration requirement, the intent is to fly those iterations as evenly as possible throughout the training year. Attention must be given to ensure a balanced training schedule.

c. Crew Training Exercise. Enter “Crew Training” after the last individual training event and list all required crew training events below. The required crew iterations are included as an annex in each ATM. Proration of ATM mandated crew training exercises is authorized. Reprogramming of ATM mandated crew training exercises is not authorized.

Opposite Seat Fam				*1*	*1*																	*1*	*1*
	Events Flown																					*1*	*1*
Crew Training																							

Gunnery STX			*1*	*3*	*3*				*1*										*1*				

Figure C-21

d. Platoon/Team Training Exercise. Enter “Platoon/Team Training” after the last "crew training" event and list all required platoon/team training events below. The required crew STXs are included as an annex in each ATM. Proration and reprogramming of ATM mandated platoon/team training exercises is authorized IAW TC 1-200 Chapter 2, paragraph 2-11 b.

C-7. DA FORM 7120-4-R (CREWMEMBER ITERATION REQUIREMENTS CONTINUATION)

Use if additional space is required for listing Individual, Crew or Platoon/Team Training requirements.

C-8. DA FORM 7120-5-R (CREWMEMBER ADDITIONAL TRAINING/EVALUATION REQUIREMENTS – REMARKS and CERTIFICATION)

a. Name, Rank, SSN and Aircraft Type. Fill in using the same information used on the previous forms.

b. Task. Add the title of any periodic training task required, but not listed previously on any other forms.

Additional Training Requirements			
TASK	**Frequency**	**Reference**	**Remarks**
Helo Dunker Training	*1-Annually*	*USAEUR 95-1*	*Done as a unit each July*
HEED Training	*1-Annually*	*AR 95-1*	*Academic*

Figure C-22

c. Frequency. Enter the frequency at which the training must be conducted.

d. Reference. Enter the reference mandating the training.

e. Remarks. Enter any pertinent remarks as required.

f. Additional Evaluation Requirements. List additional evaluation requirements not shown on the 7120-1-R. Indicate the designated evaluation period per the directive requiring the evaluation. This date may be different from the APART period. Enter the date the evaluation requirement was completed and any pertinent remarks.

Additional Evaluation Requirements			
Evaluation Requirement	Designated Period	Completed	Remarks
	-		
	-		

Figure C-23

g. Certification. At the end of the crewmember’s training year, he must certify that he has or has not completed his ATP requirements. The crewmember must sign and date the form at the end of annual training period. If the annual requirements have not been completed, the commander must take action IAW AR 95-1.

CERTIFICATION:	
I have / have not completed my ATP flying hour, task performance and evaluation requirements.	
Crewmember's Signature	Date

Figure C-24

C-9. DA FORM 7120-6-R (CREWMEMBERS COMPANY COLLECTIVE TRAINING RECORD)

a. Name, Rank, SSN and Aircraft Type. Fill in using the same information used on the previous forms.

b. Individual Training Year. Enter the same time frame as the annual dates on DA Form 7120-R Part III. The crewmember's annual training period will be superimposed on the unit-training calendar.

Name:	Rank:	SSN:	Aircraft Type:	Individual Training Year
Pilot, Imma G.	*CW2*	*123 - 45 - 6789*	*AH-64A*	*17 May 98 to Jan 99*

Figure C-25

c. Unit Annual Training Period. Enter the start year and ending year for the unit.

Unit Annual Training Period	*1 Oct 98 - 30 Sep 99*			1st Quarter			2nd Quarter			3rd Quarter			4th Quarter		
Company Collective	Qtr	SA	Annual	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep

Figure C-26

d. Company Collective. Enter the required company collective events from the appropriate ARTEP/MTP in the frequency column. Indicate in which month the unit is scheduled to conduct the required task. This is a unit requirement, not an individual. Group missions by type if necessary to facilitate programming the individual crewmember requirements. A crewmember designated RL 1(T) prior to the beginning of the unit's annual training year must participate in 75% of the scheduled company collective missions.

Unit Annual Training Period	*1 Oct 98 - 30 Sep 99*			1st Quarter			2nd Quarter			3rd Quarter			4th Quarter		
Company Collective	Qtr	SA	Annual	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Conduct Deliberate Attack		*1*	*3*	*1*						(*1*)			(*1*) IGP		
Conduct Hasty Attack		*1*	*3*		(*1*) IGP			(*1*) IGP			(*1*) IGP				
Conduct Deep Attack		*1*	*3*			(*1*) IGP			(*1*) IGR			*1*			
Total Attack Missions		***3***	***9***	***1***	***1***	***1***		***1***	***1***	***1***	***1***	***1***	***1***		
Individual Requirement		*2*	*7*		*1*	*1*		*1*	*1*	*1*	*1*		*1*		
Remarks: *13 Apr, missed deep attack, emergency leave.*															

Figure C-27

e. Individual Requirements. For planning and OPTEMPO purposes, company and battalion collective mission requirements were based on the ability to launch 75% of the assigned aircraft and crews. Therefore, each crewmember is expected to complete only 75% of the scheduled company and battalion collective missions. Use standard mathematical convention for rounding to the nearest whole number. If the collective METL missions do not lend themselves to grouping, use the total number of missions to determine the crew members requirements. The commander will circle the missions he requires the crewmember to complete. The crewmember will initial by the mission when completed. Use the remarks section to explain any missed requirements.

C-10. DA FORM 7120-7-R (CREWMEMBERS BATTALION COLLECTIVE TRAINING RECORD)

Complete the battalion collective training record using the same procedures established for the company collective training record.

C-11. DA FORM 7122-R-E (CREWMEMBER TRAINING RECORD)

DA Form 7122-R is used to permanently record crewmember evaluations and summaries of 4507-R. It also is used to record any CHANGE in crew member status or other significant events. The DA Form 7122-R will be used to collect data during the year for input to the DA Form 759.
Instructions for completing the form.

a. General Instructions.

(1) Type or clearly print all entries in black or dark blue ink.

(2) For blocks that do not require an entry, enter any commonly understood letters or symbols; for example, NA for "not applicable" or a dash (—).

(3) To make minor corrections, use correction fluid or line through the incorrect information and add the correct information. Use the procedures in paragraph e below to make major corrections.

(4) Keep entries to the form as clear and concise as possible. Use standard abbreviations and acronyms.

(5) Significant events that occur (i.e.: acft transition, IFE course)during the time a crewmember departs his previous duty station and is integrated into a new ATP will be entered on the 7122-R prior to assignment.

(6) Not every possible event or occurrence can be anticipated. If situations arise that are not covered by these instructions, use sound judgment and enter the event in the most logical manner. Significant events that occur (i.e.: acft transition, IFE course)during the time a crewmember departs his previous duty station and is integrated into a new ATP will be entered on the 7122-R prior to assignment.

(7) DA Form 7122-R is a two-page form, however it is likely that one page will fill before the other. If the remarks page (Page 2) fills first, add an additional remarks page directly behind the first one. Add as many additional remarks pages as needed. When page 1 is filled up, close out the remarks page by drawing a diagonal line from the first unused remarks block to the last signature block. Then place a new DA Form 7122-R (both pages) on top of the old one.

b. Administrative and Demographic Data.

(4) Sheet number. Number each sheet in numerical order.

(1) Name. Enter the crewmember's full name (last, first, and middle initial. If reproducing the form as two separate sheets, enter crewmember's name on first line of additional sheets).

(2) SSN. Enter the crewmember's social security number.

(3) Rank. Enter the crewmember's rank.

(4) Birth month. Enter the crewmember's birth month.

CREWMEMBER TRAINING RECORD

For use of this Form, see TC 1-200; the proponent agency is TRADOC

Sheet No: 1

Name: Roberts, James D.			SSN: 123-45-6789						Rank: CW3			Birth Month: September			
Date	Acft	Event	Duty	D	N	NG	NS	W	H	Sim	Seat	Recorded By	GR	CM Init	Rmk

Example C-1. Administrative and Demographic Data

c. Training Event Data.

(1) Date. Enter the day, month and year of the event. After the first entry, it is acceptable to omit the year until entry of the first event of the following year.

(2) Acft. Enter the alphanumeric designation of the aircraft or simulator; for example, UH-60L, OH-58A, CH-47D, If the event was performed solely in a flight simulator , enter the simulator designation. example: 2B24, 2B33.

(3) Event. Enter a short description of the event. Record events listed in (a) through (m) below.

(a) Unit assignments and reassignments, to include NVG designated status (aviators). Reassignment within the unit that does not require a DA 759 closeout will be treated as a CHANGE of duty.

Date	Acft	Event	Duty	D	N	NG	NS	W	H	Sim	Seat	Recorded By	GR	CM Init	Rmk
4 Jan 98	*OH-58C*	*Assignment*	-	-	-	-	-	-	-	-	-	*F. Franks, CPT, Ops*	/	*JR*	*Yes*
18 Feb 00	*NA*	*PCS to USAAVNC*	-	-	-	-	-	-	-	-	-	*S. Pace, CW4, SP/IE*	/	*JR*	*No*

17 Mar	*OH-58C*	*Assignment*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*W. Patton, CW4, SP*	*/*	*JR*	*Yes*

Example C-2. Assignments and Reassignments

(b) Completion of significant training programs; for example, aircrew coordination training, environmental training. Summarize the event on one line. Start and completion of time limited training programs such as RL progressions, refresher training and aircraft qualification.

Name: *Roberts, James D.*			SSN: *123-45-6789*						Rank: *CW3*			Birth Month: *September*			
Date	Acft	Event	Duty	D	N	NG	NS	W	H	Sim	Seat	Recorded By	GR	CM Init	Rmk
4 Jan 98	*OH-58C*	*Assignment*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*F. Franks, CPT, Ops Off*	*/*	*JR*	*Yes*
7 Jan	*OH-58C*	*Cdrs Eval / local Area*	*PI*	*1.4*	*0.3*	*-*	*-*	*-*	*0.3*	*-*	*R*	*S. Smith, CW4, SP/IE*	*S*	*JR*	*Yes*
18 Feb	*OH-58C*	*RL2 Progression Comp*	*PI*	*11.4*	*4.2*	*-*	*-*	*-*	*2.1*	*-*	*R*	*S. Smith, CW4, SP/IE*	*S*	*JR*	*Yes*

Date	Remarks	Commander's Signature
4 Jan 98	*Assigned to 2/228 CAV, APO AE 09952, Para ___, Ln*	
	OH-58 Scout Pilot, FAC 1 NVG Position	
7 Jan 98	*Qualified RL3 this date, Average flt, needs 3-4 hrs for*	
	Must progress to RL 2 NLT 7 Apr 98	
18 Feb 98	*Qualified RL2 this date, No NVG, Good progress*	
	Must progress to RL 1(P) NLT 19 May 98	

Example C-3. Significant Training Events

(c) Placement on or removal from flight status, to include NVG designated status (non-rated crewmembers).

Name: *Buchman, Karl M.*			SSN: *123-45-6780*						Rank: *SSG*			Birth Month: *March*			
Date	Acft	Event	Duty	D	N	NG	NS	W	H	Sim	Seat	Recorded By	GR	CM Init	Rmk
1 Oct 98	*CH-47D*	*Started Acft Qual*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*R. Hagan, SFC, SI*	*/*	*KB*	*No*
14 Oct	*CH-47D*	*Academics Completed*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*R. Hagan, SFC, SI*	*S*	*KB*	*No*
1 Dec	*CH-47D*	*Acft Qual Complete*	*CE*	*27.8*	*12.0*	*-*	*-*	*-*	*-*	*-*	*Cab*	*R. Hagan, SFC, SI*	*S*	*KB*	*Yes*

Example C-4. Initial aircraft Qualification (NCM)

(d) Change of duty position, FAC, NVG designation or primary, alternate or additional aircraft.

Name: *Roberts, James D.*			SSN: *123-45-6789*						Rank: *CW3*			Birth Month: *September*			
Date	Acft	Event	Duty	D	N	NG	NS	W	H	Sim	Seat	Recorded By	GR	CM Init	Rmk
17 Aug	*UH-60*	*Change of Duty*	*PI*	-	-	-	-	-	-	-	-	*F. Franks, CPT, Ops Off*	/	*JR*	*Yes*

Date	Remarks	Commander's Signature
17 Aug	New Duty Position, Para___, Line ____, Bde S3, FAC 2,	
	Primary Acft UH-60, Not NVG Designated	

Example C-5. Change of Duty Position/FAC/Aircraft

(e) Completion of Department of the Army aviation-related qualification courses, both flying and non-flying

Name: *Roberts, James D.*			SSN: *123-45-6789*						Rank: *CW3*			Birth Month: *September*			
Date	Acft	Event	Duty	D	N	NG	NS	W	H	Sim	Seat	Recorded By	GR	CM Init	Rmk
18 Feb 00	*NA*	*Events Posted to 759*	-	-	-	-	-	-	-	-	-	*S. Pace, CW4, SP/IE*	/	*JR*	*Yes*
17 Mar	*OH-58C*	*Assignment*	-	-	-	-	-	-	-	-	-	*W. Patton, CW4, SP*	/	*JR*	*Yes*
29 May	*OH-58C*	*TAC & CTC MOI Comp*	*IP/SP*	*27.8*	*1.2*	-	-	-	-	-	*Both*	*W. Patton, CW4, SP*	*S*	*JR*	*No*
4 Jun	*OH-58C*	*RL Progression*	*IP/SP*	*1.6*	*1.0*	-	-	-	*1.5*	-	*Both*	*W. Patton, CW4, SP*	*S*	*JR*	*Yes*

Date	Remarks	Commander's Signature
17 Mar 00	*Assigned to B Co 1/212 Avn, Para___, Ln ___, OH-*	
	IP, FAC 2, Not NVG Designated, MOI scheduled 4 Apr	
4 Jun 00	*Qualified RL 1(P) PC, PC, IP for OH-58A/C, D, N, VMC*	
	Include EPTs	

Example C-6. Qualification Course

(f) All flight, oral and written evaluations. Specify the type of evaluation; for example, no-notice evaluation, APART instrument evaluation, proficiency flight evaluation, or aircraft operator's manual examination.

Name: *Roberts, James D.*			SSN: *123-45-6789*						Rank: *CW3*			Birth Month: *September*			
Date	Acft	Event	Duty	D	N	NG	NS	W	H	Sim	Seat	Recorded By	GR	CM Init	Rmk
6 Aug	*OH-58C*	*-10 Exam*	*PI*	/	/	/	/	/	/	/	/	*B. Boller, CW2, IP*	*S*	*JR*	*No*
14 Jan 99	*OH-58C*	*No-Notice Eval*	*PC*	-	*.3*	*1.7*	-	-	-	-	*R*	*M. Beck, SPC, OPNS*	*U*	*JR*	*Yes*
19 Jan	*OH-58C*	*NVG Refresher Comp*	*PC*	-	*.5*	*4.7*	-	-	-	-	*L/R*	*M. Beck, SPC, OPNS*	*S*	*JR*	*Yes*

Date	Remarks	Commander's Signature
14 Jan 99	*Totally lost off reservation, Recommend Suspend*	
	and retrain Approved	*Tom A Gunn, CPT*

19 Jan 99	*Excellent NVG Nav, Recommend restoration to RL 1(T)*	
	Day. N, NVG for both seats Approved	*Tom A Gunn, CPT*

Example C-7. Evaluations

(g) Completion of all ATP requirements.

Date	Acft	Event	Duty	D	N	NG	NS	W	H	Sim	Seat	Recorded By	GR	CM Init	Rmk
6 Sep	*OH-58C*	*98 APART Completed*	*PI*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*L/R*	*B. Boller, CW2, IP*	*/*	*JR*	*No*

Example C-8. APART Completions

(h) Any non-medical suspensions and their disposition.

Name: *Roberts, James D.*			SSN: *123-45-6789*						Rank: *CW3*			Birth Month: *September*			
Date	Acft	Event	Duty	D	N	NG	NS	W	H	Sim	Seat	Recorded By	GR	CM Init	Rmk
15 Oct	*OH-58C*	*Flt Suspension (no-med)*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*F. Franks, CPT, Opns*	*/*	*JR*	*Yes*
24 Oct	*OH-58C*	*Flt Suspension revoked*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*F. Franks, CPT, Opns*	*/*	*JR*	*Yes*

Date	Remarks	Commander's Signature
15 Oct 99	*CW3 Roberts suspended from performing all crew duties*	
	Pending investigation of alleged Flt violation on 14 Oct 99	*Tom A Gunn, CPT, AV*
24 Oct 99	*Flt Suspension (15 Oct) Revoked, Investigation revealed no*	
	Violations, CW3 Roberts is returned to all previous crew duties	*Tom A Gunn, CPT, AV*

Example C-9. Non-Medical Suspension

(i) All waivers/extensions and their disposition. Extensions will include the defined extension period. Crewmembers will be suspended from flight duties until the completion of the Commanders investigation and the extension or waiver is granted.

Name: *Roberts, James D.*			SSN: *123-45-6789*						Rank: *CW3*			Birth Month: *September*			
Date	Acft	Event	Duty	D	N	NG	NS	W	H	Sim	Seat	Recorded By	GR	CM Init	Rmk
30 Sep	*OH-58C*	*30 ATP Extension*										*F. Franks, CPT, Opns*	*/*	*JR*	*Yes*
12 Oct	*OH-58C*	*ATP Requirements Comp*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*F. Franks, CPT, Opns*	*/*	*JR*	*Yes*

Date	Remarks	Commander's Signature
30Sep 99	*CW3 Roberts failed to meet ATP individual instrument req.*	

	Granted 30 day extension, Prohibited from performing PC	
	Duties until requirements completed	*Tom A Gunn, CPT, AV*
12 Oct 99	*ATP requirements complete, returned to PC duties*	*Tom A Gunn, CPT, AV*

Example C-10. Waivers/Extensions

(j) Involvement in any Class A, B, C, or D accident or incident and the results of any post accident evaluation (if given).

Date	Acft	Event	Duty	D	N	NG	NS	W	H	Sim	Seat	Recorded By	GR	CM Init	Rmk
8 Aug	*OH-58C*	*Class C Accident*	*IP*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*Left*	*J. Jones, CW3, ASO*	*/*	*JR*	*Yes*
10 Aug	*OH-58C*	*Post Accident Eval (DES)*	*IP*	*1.2*	*-*	*-*	*-*	*-*	*-*	*-*	*Left*	*C. Worley, CW4, SP*	*S*	*JR*	*Yes*

Date	Remarks	Commander's Signature
8 Aug 00	*Involved in tree strike, Main rotor blades, on acft*	
10 Aug 00	*No Deficiencies noted, recommend return to full prior*	
	And duties as PC/IP	

Example C-11. Accident/Incident

(k) Medical Suspensions (30 days or longer) and the return to full flying duty. Completion of annual flying duty medical evaluation, DA Form 4186 (Medical Recommendation for Flying Duty).

Date	Acft	Event	Duty	D	N	NG	NS	W	H	Sim	Seat	Recorded By	GR	CM Init	Rmk
14 Mar	*NA*	*Medical Suspension*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*S. Smith, CW4, SP/IE*	*/*	*JR*	*No*
12 May	*NA*	*4186 Received, FFD*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*S. Pace, CW4, SP/IE*	*/*	*JR*	*No*
15 Sep	*NA*	*Annual 4186 Rec'd, FFD*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*S. Pace, CW4, SP/IE*	*/*	*JR*	*No*

Example C-12. Medical Events

(l) Record the following additional events on the 7122-R.

- Completion of gunnery requirements.
- Completion of annual ASET requirements.
- Receipt of safety and Broken Wing awards.
- Transcription of data from the DA Form 7122-R to the DA Form 759.

(m) Do not record the following events.

- Flights conducted solely to accomplish task iteration, flying-hour or MOPP requirements.
- Attendance at recurring briefings; for example, safety meetings and weather briefings.
- Participation in ARTEP exercises, Edges, or other unit-level exercises.

(4) Duty. If applicable, enter the appropriate duty symbol. This duty symbol reflects the purpose of the flight or event, not necessarily the DA Form 2408-12 duty. For example, a pilot in command flight evaluation requires entry of the duty symbol "PI" on DA Form 2408-12; on this form, the duty symbol entered would be "PC".

(5) D, N, NG, NS, W, H, and Sim. Enter the time flown, in hours and tenths of hours, under the appropriate flight modes/conditions. Enter the time flown on any single flight event or the total hours flown in multi-flight training programs. The flight modes/conditions indicated normally will agree with the DA Form 2408-12 entry.

(6) Seat. Enter the crewmember's seat position, if appropriate, for the event (front, back, left, right, both or cabin).

(7) Recorded By. Evaluators, trainers, operations personnel and others when authorized by the commander) will enter their first initial, last name, rank and duty position. If the event was an evaluation and someone is recording it other than the evaluator, record the evaluator's name in the remarks section.

(8) GR. If the event was graded, enter an "S" for satisfactory or a "U" for unsatisfactory.

(9) CM Init. Brief the crewmember on the entry and ensure he understands any change in status. Crewmembers will then initial this block. The crewmember's initials show that he is aware of the entry on the form and any remarks and understands any change in status. The crewmembers will immediately initial any entry resulting in a change of status such as an unsatisfactory evaluation or a suspension. He will initial routine entries, such as assignment to a unit or satisfactory evaluations, as soon as practical.

(10) Rmk. Enter "Yes", "Y", "No", or "N" in this column to show whether comments are entered in the Remarks section regarding the entry. Do not enter "NA" in this column nor leave it blank.

(11) Remarks. Record pertinent information not shown on the front of the form in this section. Do not restate information entered on the front of the form; for example, "This was a satisfactory PC evaluation." There is no single correct way of entering remarks as long as they are clear, concise and specific. When entering remarks, use standard abbreviations and acronyms or logical shortened word.

(12) Enter the date in the same format as on the front of the form. After the date, enter pertinent remarks. If the remarks require more than one line, do not repeat the date on the second or subsequent lines. Remarks include description of unsatisfactory tasks on an evaluation or an explanation of non-medical suspensions from flight.

(13) Certain events recorded on the DA Form 7122-R require the commander's signature. These are-

(a) Non-medical suspension.

(b) RL designation after failure of a hands-on performance test or a training deficiency.

(c) Extensions.

(d) Waivers.

(e) Return to previous duties after (a) or (b) above.

NOTE: The commander's signature is not required if he has certified another document for the event and the entry on the DA Form 7122-R is a summary of the event. In addition, events that produce a new or revised CTL do not require the commander's signature on DA Form 7122-R.

d. Corrections. Corrections to DA Form 7122-R may be needed for several reasons. Careful and timely entering of events as they occur will eliminate the need for corrections.

(1) Out of sequence events. If an event is not entered at the proper time and another event has been recorded, place an "X" to the left of the date block of the out of sequence entry.

(2) Unusable form. If enough mistakes accrue to make the form unusable, transcribe the data to a new form. Place a diagonal line across the front of the unusable form, label it "transcribed, and retain this copy of the form under the current form. DO NOT DESTROY OR DISCARD ANY DA FORM 7122-R THAT CONTAINS AN ENTRY.

CREWMEMBER TRAINING RECORD

For use of this Form, see TC 1-200; the proponent agency is TRADOC

Sheet No: 1

Name: *Roberts, James D.*	SSN: *123-45-6789*	Rank: *CW3*	Birth Month: *September*

Date	Acft	Event	Duty	D	N	NG	NS	W	H	Sim	Seat	Recorded By	GR	CM Init	Rmk
4 Jan	*OH-58C*	*Assignment*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*F. Franks, CPT, Ops*	*/*	*JR*	*Yes*
7 Jan	*OH-58C*	*Cdrs Eval / local Area*	*PI*	*1.4*	*0.3*	*-*	*-*	*-*	*0.3*	*-*	*R*	*S. Smith, CW4,*	*S*	*JR*	*Yes*
18 Feb	*OH-58C*	*RL2 Progression*	*PI*	*11.4*	*4.2*	*-*	*-*	*-*	*2.1*	*-*	*R*	*S. Smith, CW4,*	*S*	*JR*	*Yes*
21	*OH-58C*	*RL1(P) Progression*	*PI*	*6.1*	*1.0*	*-*	*-*	*-*	*-*	*-*	*L/R*	*S. Smith, CW4,*	*S*	*JR*	*Yes*
24	*OH-58C*	*NVG RL2 Progression*	*PI*	*-*	*0.2*	*1.7*	*-*	*-*	*-*	*-*	*R*	*B. Boller, CW2, IP*	*S*	*JR*	*Yes*
14 Apr	*OH-58C*	*NVG RL1(P) Tng Complete*	*PI*	*-*	*1.2*	*11.5*	*-*	*-*	*-*	*-*	*L/R*	*B. Boller, CW2, IP*	*S*	*JR*	*Yes*
7 Jul	*OH-58C*	*APART-Day only*	*PI*	*1.7*	*-*	*-*	*-*	*-*	*-*	*-*	*L*	*S. Smith, CW4,*	*S*	*JR*	*No*
11 Jul	*OH-58C*	*APART-NVG/Instrument*	*PI*	*-*	*0.2*	*1.1*	*-*	*-*	*1.4*	*-*	*R*	*S. Smith, CW4,*	*S*	*JR*	*No*
6 Aug	*OH-58C*	*-10 Exam*	*PI*	*/*	*/*	*/*	*/*	*/*	*/*	*/*	*/*	*B. Boller, CW2, IP*	*S*	*JR*	*No*
3 Sep	*NA*	*Flt Phys Comp-FFD*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*G Franks, SPC,*	*/*	*JR*	*No*
6 Sep	*OH-58C*	*98 APART Completed*	*PI*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*L/R*	*B. Boller, CW2, IP*	*/*	*JR*	*No*
3 Oct	*NA*	*Events Posted to AFRS*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*T. Carroll, CW4, SP*	*/*	*JR*	*No*
17	*OH-58C*	*PC Eval (3 Flts)*	*PC*	*3.1*	*1.0*	*2.5*	*-*	*-*	*1.3*	*-*	*L/R*	*S. Smith, CW4,*	*S*	*JR*	*Yes*
14 Jan 00	*OH-58C*	*No-Notice Eval*	*PC*	*-*	*.3*	*1.7*	*-*	*-*	*-*	*-*	*R*	*M. Beck, SPC,*	*U*	*JR*	*Yes*
19 Jan	*OH-58C*	*NVG Refresher Comp*	*PC*	*-*	*.5*	*4.7*	*-*	*-*	*-*	*-*	*L/R*	*M. Beck, SPC,*	*S*	*JR*	*Yes*
14	*NA*	*Medical Suspension*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*S. Smith, CW4,*	*/*	*JR*	*No*
12	*NA*	*4186 Received, FFD*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*S. Pace, CW4, SP/IE*	*/*	*JR*	*No*
22	*OH-58C*	*Acft & NVG PFE (2 Flts)*	*PC*	*1.4*	*.3*	*1.7*	*-*	*-*	*.2*		*Bot*	*S. Pace, CW4, SP/IE*	*S*	*JR*	*No*
12 Jul	*OH-58C*	*APART Eval & -10 Exam*	*PC*	*0.7*	*0.3*	*1.2*	*-*	*-*	*1.1*	*-*	*L/R*	*S. Pace, CW4, SP/IE*	*S*	*JR*	*No*
12 Jul	*OH-58C*	*99 APART Completed*	*PC*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*L/R*	*S. Pace, CW4, SP/IE*	*/*	*JR*	*No*
8 Sep	*NA*	*4186 Rec'd, Phys Comp*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*M. Beck, SPC,*	*/*	*JR*	*No*
3 Oct	*NA*	*Events Posted to 759*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*M. Beck, SPC,*	*/*	*JR*	*No*
18 Feb 00	*NA*	*PCS to USAAVNC*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*-*	*S. Pace, CW4, SP/IE*	*/*	*JR*	*No*

DA FORM 7122-R, EDDITION OF MAR 92 IS OBSOLETE

CREWMEMBER TRAINING RECORD

For use of this Form, see TC 1-200; the proponent agency is TRADOC

Sheet No: 2

Name: *Roberts, James D.*	SSN: *123-45-6789*	Rank: *CW3*	Birth Month: *September*

Date	Acft	Event	Dut	D	N	N	NS	W	H	Si	Sea	Recorded By	GR	CM	Rmk
18 Feb 00	NA	Events Posted to	-	-	-	-	-	-	-	-	-	S. Pace, CW4, SP/IE	/	JR	Yes
17	OH-58C	Assignment	-	-	-	-	-	-	-	-	-	W. Patton, CW4, SP	/	JR	Yes
29	OH-58C	TAC & CTC MOI	IP/	27.8	1.	-	-	-	-	-	Bot	W. Patton, CW4, SP	S	JR	No
4 Jun	OH-58C	RL Progression	IP/	1.	1.	-	-	-	1.	-	Bot	W. Patton, CW4, SP	S	JR	Yes
8 Aug	OH-58C	Class C Accident	IP	-	-	-	-	-	-	-	Lef	J. Jones, CW3, ASO	/	JR	Yes
10	OH-58C	Post Accident Eval (DES)	IP	1.	-	-	-	-	-	-	Lef	C. Worley, CW4, SP	S	JR	Yes

Figure C-29 Example of a completed 7122-R

C-12. DA FORM 4507-R (CREWMEMBER GRADE SLIP)

Instructions for completing the form.

a. Name, Rank, and SSN. Enter the crewmember's name (last, first, middle initial), rank, and social security number.

b. Unit. Enter the unit to which the crewmember is assigned.

c. Purpose. Enter the purpose of the training program using standard phraseology; for example, refresher training or crew training.

d. Aircraft Type. Enter the alphanumeric designation of the aircraft or simulator; for example, UH-60L, OH-58A, UH-1FS, AH-64CMS or UH-60FS. Use of the flight simulator designation is acceptable; for example, 2B24 or 2B33.

e. Date Started. Enter the date on which the flight training program starts.

f. Must Complete By. If the training program is time limited, enter the date on which the crewmember must complete it. If the date changes, line through the original date and enter the new date above it. Explain the change in the Comments section.

CREWMEMBER GRADE SLIP For use of this form, see TC 1-200; the proponent agency is TRADOC		
Name: *Jones, James J*	**Rank:** *CW2*	**SSN:** *123-45-6789*
Unit: *2/228 CAV*	**Purpose:** *NVG Refresher Training*	
Aircraft Type: *UH-60*	**Date Started:** *10 Jan 94*	**Must Complete By:** *10 Apr 94*

Example C-13 4507-R Administrative Data

g. Date. Enter the day, month and year of the flight.

h. Flight Data. This form provides a cumulative record of the time flown under those flight modes/conditions normally requiring minimum amounts. Record all flight time in hours and tenths of hours.

(1) Time Today. Enter the total time flown today.

(2) Cumulative Time. Record the total flight time accrued to date.

(3) Day Flight-Today. Enter the time flown today under day flight conditions. For flights conducted under other than day flight conditions, enter the applicable flight mode or condition in the space provided. Then record the time flown today for that flight mode or condition.

(4) Day Flight-Cumulative. Record the total time accrued under day flight conditions. For flights conducted under other than day flight conditions, enter the applicable flight mode or condition in the space provided. Then record the total flight time accrued to date for that flight mode or condition.

(5) Duty Position. Enter the crewmember's duty position for the flight.

(6) Seat Position. Enter the crewmember's seat position for the flight.

(7) Overall Grade. Enter either S, P, T, or U in the overall grade block after the crewmember completes the flight. This grade reflects the evaluator/trainer's overall assessment of the flight. Some tasks may be graded P with the flight still receiving an S. See Par C-13 e for grading levels.

(8) Crewmember Initials. Have the crewmember initial the grade slip to certify that he has been debriefed. His initials do not mean that he agrees with the results.

	Date									
Flight Data	*10 Jan 94*	*13 Jan 94*	*18 Jan 94*	*19 Jan 94*						
Time Today	2.2	1.7	2.0	2.5						
Cumulative Time	2.2	3.9	5.9	8.4						
Day Flight - Today										
Day Flight - Cumulative										
NVG Flight - Today	1.5	1.2	1.5	2.0						
NVG Flight - Cumulative	1.5	2.7	4.2	6.2						
N Flight - Today	.7	.5	.5	.5						
N Flight - Cumulative	.7	1.2	1.7	2.2						
Flight - Today										
Flight - Cumulative										
Duty Designation	PI	PI	PI	PI						
Seat Position	R	L	R	L						
Overall Grade	S	S	S	S						
Crewmember Initials	JJ	JJ	JJ	JJ						

Example C-13 4507-R Flight Data

(9) Trainer or Evaluator Name, Rank, and Duty Position. Enter the trainer or evaluator's last name and first initial, rank, and duty position.

Trainer or Evaluator Name, Rank and Duty Position	*Walker, J, CW4 SP*	*Walker, J, CW4 SP*	*Walker, J, CW4 SP*	*Walker, J, CW4 SP*						

Example C-14 4507-R Trainer or Evaluator Data

i. Comments. If desired, enter pertinent comments on DA Form 4507-R or, if more space is required, on DA Form 4507-2-R (Continuation Comment Slip). Enter the date of the flight and sound, objective comments. If the overall flight, or any individual task is graded U, a comment is required. For unsatisfactory tasks, indicate which standards were exceeded and any other appropriate remarks. These comments are important for reference by other trainers or evaluators during future training or evaluation.

Example C-15 Page 2, 4507-R Comments

Date	Comments
10 Jan 94	*Inconsistent in maintaining altitude, was as much as 200' off during*
	Traffic pattern flight, requires practice
13 Jan 94	*Did not complete fuel check, Totally lost during terrain flight*
	Navigation.
18 Jan 94	*Had trouble holding unmask alt, needs practice*
19 Jan 94	*Masking/unmasking much improved, Qualified RL 1(P)*

C-13. DA FORM 4507-1-R (MANEUVER/PROCEDURE GRADE SLIP)

Instructions for completing the form.

a. Examinee's Name. Enter the examinee's name (last, first, middle initial). This entry is not required on subsequent pages.

b. Page No. Enter the number of this page.

c. No. Pages. Enter the total number of DA Forms 4507-1-R used.

d. Date. Enter the day, month and year of the flight.

e. Grades. In the blocks under the date, the evaluator/trainer or unit trainer grades each task performed. An unsatisfactory grade, "U" or a needs practice grade "P" require a brief description of the deficiency in the comments section of DA Form 4507-R, example C-15. Use DA Form 4507-2-R, if additional space is required. Place a diagonal (/) in the grade blocks for all maneuvers or procedures not performed. When three or more consecutive tasks are not graded, place a diagonal line in the first and last task and connect the two with a straight vertical line. Authorized grades are as follows:

(1) T - Indicates continual task performance to ATM standards. When used by an evaluator/trainer, an "T" indicates that the crewmember has satisfactorily demonstrated proficiency in the task.

(2) P - Indicates a need for task practice. This grade recognizes that a crewmember requires time to practice a task. During practice he may not continually perform the task to ATM standards, but neither does he consistently perform it below standards.

(3) U - Indicates that a task is consistently performed below ATM standards.

NOTE: A unit trainer may only grade individual tasks as “T” or “P”. Units may develop ways to highlight flights conducted by a UT. One method may be to place “UT” after the date. Another method may be to use a highlighter pen to mark the column.

f. Maneuver/Procedure. Enter the tasks required by the unit’s aircrew training program. Units may list all tasks required by the Commander’s Task List. Another option is to develop separate forms for each training program; for example, NVG refresher training, RL progression and mission training. Units may also use a highlighter pen or any other suitable method to track completion of tasks in different modes.

g. Select. Under select, indicate the mode of flight in which the task must be evaluated. For day requirements, place an “X” in the D column. For simulation requirements place an “X” in the S column. For instrument tasks, place an “X” in the I column. For night unaided requ
column. For night vision goggles (NVG), place an “G” in the N column. For night vision systems (NVS),

h. Purpose. Enter the purpose of the training program using standard phraseology; for example, refresher training or crew training.

MANEUVER/PROCEDURE GRADE SLIP

For use of this form, see TC 1-200; the proponent agency is TRADOC

Examinee's Name:

Page No. *1*	**No. Pages *3***	**Date**

MANEUVER/PROCEDURE					*10 Jan 94*	*13 Jan 94*	*18 Jan 94*	*19 Jan 94*				
Select				**Purpose:** NVG Refresher Training								
D	N	S	I	Individual (1000 Series) Tasks								
	G			Participate in a crew mission briefing	*T*	*/*	*T*	*T*				
	G			Plan a VFR flight	*T*		*/*	*T*				
				Plan an IFR flight	*/*			*/*				
	G			Verify aircraft weight and balance	*T*			*T*				
	G			Prepare a performance planning card	*T*			*T*				
	G			Perform preflight inspection	*T*	*/*	*/*	*T*				
	G			Perform before-starting eng. thru before-leaving helicopter	*/*	*T*	*T*	*T*				
	G			Inspect/perform operational checks on ALSE	*/*	*/*	*T*	*T*				
	G			Maintain airspace surveillance	*T*	*T*	*T*	*T*				
	G			Perform ground taxi	*T*	*T*	*T*	*T*				
	G			Perform hover power check	*T*	*T*	*T*	*T*				
	G			Perform hovering flight	*T*	*T*	*T*	*T*				
	G			Perform VMC takeoff	*T*	*T*	*T*	*T*				
	G			Perform fuel management procedures	*T*	*U*	*T*	*T*				
	G			Perform VMC flight maneuvers	*P*	*T*	*T*	*T*				
				Select landing zone/pickup zone	*/*	*T*	*/*	*/*				
	G			Navigate by pilotage and dead reckoning		*U*	*T*					
	G			Perform electronically aided navigation	*/*	*U*	*T*					
	G			Perform VMC approach	*T*	*T*	*T*					
	G			Perform a roll-on landing	*/*	*/*	*T*					
	G			Perform slope operations		*T*	*T*					
				Perform refueling operations		*/*	*/*					
				Perform autorotation				*/*				
	G			Perform simulated engine failure at a hover				*T*				
	G			Perform simulated engine failure at altitude				*T*				
	G			Perform flight with AFCS off				*T*				
	G			Perform ECU/DEC lockout operations				*T*				
	G			Perform procedures for stabilator malfunction		*/*		*T*				
	G			Perform emergency egress	*/*	*T*	*/*	*T*				

DA FORM 4507-1-R, Draft

Figure C-3 Completed DA Form 4507-1-R, page 1.

MANEUVER/PROCEDURE GRADE SLIP

For use of this form, see TC 1-200; the proponent agency is TRADOC

Examinee's Name:

Page No. 2	**No. Pages 3**	**Date**

MANEUVER/PROCEDURE					10 Jan 94	13 Jan 94	18 Jan 94	19 Jan 94				
Select				**Purpose:** NVG Refresher Training								
D	**N**	**S**	**I**									
	G			Perform emergency procedures	/	T	/	/				
	G			Identify or perform hand and arm signals		T						
	G			Participate in a crew-level after-action review	/	T						
				Crew (2000 Series) Tasks								
				Perform FM radio homing	/	/						
				Perform a rolling takeoff								
				Perform multiaircraft operations		/	/	/				
	G			Perform tactical flight mission planning		T	T	T				
				Perform tactical communication procedures		/	/	/				
				Transmit tactical reports			/	/				
	G			Perform terrain flight			T	T				
	G			Negotiate wire obstacles			T	T				
	G			Perform masking and unmasking			P	T				
	G			Perform terrain flight deceleration			T	T				
				Perform evasive maneuvers			/	/				
				Perform actions on contact								
				Perform external load operations								
				Perform fast-rope insertion and extraction (FRIES)								
				Perform rappelling procedures								
				Perform special patrol infiltration/exfiltration (SPICES)								
				Perform rescue-hoist operations								
				Perform paradrop operations								
				Perform extended range fuel system operations								
				Perform deck-landing operations								
				Perform volcano operations								
				Perform BAMBI bucket operations								
				Perform fat hawk operations								
				Perform caving ladder operations								
				Operate NVG with the AN/AVS (ANVIS HUD)	/	/	/	/				

DA FORM 4507-1-R, Draft

Figure C-3 Completed DA Form 4507-1-R, page 2.

MANEUVER/PROCEDURE GRADE SLIP

For use of this form, see TC 1-200; the proponent agency is TRADOC

Examinee's Name:

Page No. 3	**No. Pages** 3	**Date**

MANEUVER/PROCEDURE												
Select				**Purpose:** NVG Refresher Training	10 Jan 94	13 Jan 94	18 Jan 94	19 Jan 94				
D	**N**	**S**	**I**									
	G			Perform emergency procedures for NVD failure	/	/	/	T				
				Identify major US or allied equipment and major threat				/				
				Perform aerial radio relay								
				Perform Quick Fix mission								
				Perform flat turn	/	/	/	/				

DA FORM 4507-1-R, Draft

Figure C-3 Completed DA Form 4507-1-R, page 3.

ANNEX D

TASK DEVELOPEMENT

D-1. ATM TASK MODEL DEVELOPMENT

Commanders may develop additional tasks if the appropriate ATM does not adequately cover a maneuver or mission that is required to support his METL. He will assign a 3000 series number to the task and add it to the individual CTL along with iteration and mode requirements. He will ensure that the individuals receive academic and flight training during RL progression and determined if there is a requirement for an annual evaluation of the task. Commanders will submit a copy of all 3000 series task developed to Commander, US Army Aviation Center ATTN: ATZQ-TDS-T, Fort Rucker, Alabama 36362-5000.

D-2. FORMAT.

The following format will be used in the development of all 3000 series task.

a. Task numbers will start with 3000 and run sequentially.

Example: TASK 3000

b. The task title describes the performance required of the soldier on the job. It is frequently referred to as the task. It has one action verb, and object, and may have a qualifier that describes the required action. The use of standard, well-defined verbs aids in providing quality training by--

(1) Providing/Promoting clarity.

(2) Allowing analysts, Task Selection Boards, trainer, and soldiers to understand what the task title means.

(3) Helping to prevent duplication. Use of standard verbs make it simple to group tasks by verb to avoid duplication.

(4) Promoting application of sound training principles.

Example: Perform VMC approach.

c. Warning, Cautions, and Notes. See Examples below:

WARNING

Any/all WARNINGS associated with the task should follow the task title.

CAUTION

Any/all CAUTIONS associated with the task will follow the task title or any WARNINGS.

NOTE: ***Notes may be added throughout the text of the task as appropriate.***

CONDITIONS: In an AH-64 helicopter, under VMC. Task conditions specify the common wartime or training conditions under which the task will be performed. For those aircraft with a compatible simulator, if the ATM requires one iteration of the task to be performed in the aircraft, then list the aircraft only under conditions. Cover use of the simulator under training and evaluation requirements. Conditions include:

5. Any special conditions or tasks which must be accomplished prior to performing the task.

NOTE: During task development, ensure that the conditions listed for the task match the requirements specified in chapter 2 (Figures 2-1 through 2-X) for base and MTP tasks.

STANDARDS: Task standards describe the minimum degree of proficiency or standard of performance to which the task must be accomplished. Standards are based on ideal conditions. They must be observable and measurable.

1. Select a suitable landing area per the task description.

2. Maintain a constant approach angle, clear of obstacles, to desired point of termination (hover or touchdown).

3. Maintain rate of closure appropriate for the conditions.

4. Maintain ground track alignment with the landing direction above 50 feet AGL and aircraft in trim +- one ball width.

5. Align aircraft with landing direction below 50 feet AGL, or as appropriate for obstacle avoidance.

6. Perform a smooth and controlled termination to a hover or to the ground.

7. Perform crew coordination actions per Chapter 6 and the task description.

DESCRIPTION: Task descriptions are the "how to" portion of the task. Deviations are authorized from task descriptions as long as task standards and safety are not compromised. Descriptions will normally be divided into two sections, 1. Crew actions. and 2. Procedures. Ensure that the correct designation for the crew member is used in the description to avoid confusion. Procedures identify the preferred method of accomplishing the task. Make sure the standards for the task are clearly defined in the STANDARDS section, however, it may be necessary to refer the reader to the description section for specific requirements. Use of the words will, should, and may when writing the task descriptions, must be IAW the definitions in Chapter 1.

1. Crew actions.

a. The P* will announce when he begins the approach, whether the approach will terminate to a hover or to the ground, the intended point of landing, and any deviation to the approach, to include, performing a go-around. He will announce the use of the manual stabilator before the master caution light illuminates.

b. The P will confirm the suitability of the area, acknowledge the use of the manual stabilator, and acknowledge any deviation during the approach, to include advising the P* to perform a go-around.

2. Procedures. Selection of a touchdown area depends on suitability of the area, winds, barriers, approach path, and a planned termination point. Select an approach angle that allows obstacle clearance while descending to the desired point of termination. Once the termination point is sighted and the approach angle is intercepted, adjust the collective as necessary to establish and maintain a constant angle. Maintain entry airspeed until the rate of closure appears to be increasing. Above the obstacles or 50-feet AGL, maintain ground track alignment with the landing direction and the aircraft in trim. Clear of obstacles and below 50-feet AGL, align the aircraft with the landing direction. Progressively decrease the rate of descent and rate of closure until reaching the termination point (hover, touchdown). Perform a go-around anytime conditions preclude safe completion of the approach.

a. Termination at a hover. The approach to a hover may terminate with a full stop over the planned termination point, or arrival at the planned termination point and transition to forward hovering flight.

b. Termination to the surface. If uneven surface conditions are suspected, set the parking brake before initiating the approach. Terminate with minimum lateral movement and zero ground speed unless power is limited by gross weight or DA. After surface contact, ensure that the aircraft remains stable until all movement stops. Smoothly lower the collective to the full down position, neutralize the pedals and cyclic.

c. Go-around. The P* should perform a go-around if a successful landing is doubtful or if visual reference with the intended termination point is lost.

NOTE 1: Settling with power may be induced by steep approaches.

NOTE 2: Hover OGE power may be required in certain situations. Evaluate power required versus power available.

CONSIDERATIONS: (NOT MANDATORY FOR ALL TASKS) Task considerations define the different requirements for performing the task under different flight modes (night, NVS, or NVG), or under adverse environmental conditions. They must address the unique requirements of performing the task under those conditions.

NIGHT OR NVD CONSIDERATIONS:

1. Night/NVG.

a. Altitude, apparent ground speed, and rate of closure are difficult to estimate at night. The rate of descent during the final 100 feet should be slightly less than during the day to avoid abrupt attitude changes at low altitudes. After establishing the descent during unaided flights, airspeed may be reduced to approximately 50 knots until apparent ground speed and rate of closure appear to be increasing. Progressively decrease the rate of descent and forward speed until termination.

b. Surrounding terrain or vegetation may decrease contrast and degrade depth perception during the approach. Before descending below obstacles, determine the need for artificial lighting.

c. Use proper scanning techniques to avoid spatial disorientation.

2. NVS.

a. Obtain the rate of descent during the approach from the vertical speed and radar altitude analog scale symbologies.

b. Symbology enhances approach angle determination and maintenance. When the aircraft is aligned with the intended landing area, position the LOS reticule on The intended landing point. The separation between the LOS reticule and the head tracker will provide an approximate angle to touch down when correlated to aircraft attitude. The attitude of the aircraft varies as a function of the stabilator mode that is selected.

c. The location and gimbal limits of the FLIR sensor prevent the P* from seeing the actual touchdown point. To avoid overshooting, establish a new reference point beyond the intended touchdown point.

SNOW/SAND/DUST CONSIDERATIONS:

1. Termination to an OGE hover. Terminate to a stationary OGE hover over the touchdown area. This approach requires OGE power and may be used for most snow landings and some sand/dust landings. Slowly lower the collective and allow the aircraft to descend. The descent may be vertical or with forward movement. The rate of descent will be determined by the rate in which the snow/sand/dust is blown from the intended landing point. During the descent, remain above the snow/sand/dust cloud until it dissipates and the touchdown point can be seen.

2. Termination to the surface with forward speed. This termination may be made to an improved landing surface or suitable area with minimal ground references. Once the appropriate approach angle is intercepted, adjust the collective as necessary to establish and maintain the angle. As the apparent rate of closure appears to increase, progressively reduce the rate of descent and closure to arrive at the touchdown area slightly above effective translational lift. At this point, maintain the minimum rate of closure that ensures that the snow/sand/dust cloud remains behind the pilot's station. When the wheels or heels of the skis contact the snow/ground, lower the collective and allow the aircraft to settle. Apply slight aft cyclic at touch down to prevent snagging the wheels or toes of the skis. Use of flight symbology while terminating the approach in white/brown out conditions will help the crew to maintain the desired aircraft attitude.

3. Termination to the surface with no forward speed. This termination should be made to landing areas where slopes, obstacles, or unfamiliar terrain preclude a landing with forward speed. It is not recommended when new or powder snow or fine dust is present because whiteout/brownout conditions may occur. The termination is made directly to a reference point on the ground with no forward speed.

NOTE 1: When landing in deep snow, the aircraft wheels/skis may settle at different rates and the aircraft will normally terminate in a tail low attitude.

NOTE 2: Hovering OGE reduces available ground references and may increase the possibility of spatial disorientation. Be prepared to transition to instruments/symbology and execute an instrument takeoff if ground reference is lost.

NOTE 3: At night, use of the landing, search, or strobe light may cause spatial disorientation while in blowing snow/sand/dust.

CONFINED AREA CONSIDERATIONS: An approach to the forward one-third of the area will reduce the approach angle and minimize power requirements. During the approach, continue to determine the suitability of the area and the possible need for a go-around.

MOUNTAIN/PINNACLE/RIDGELINE CONSIDERATIONS: Select an approach angle, based on the wind, density altitude, gross weight, and obstacles. During the approach, continue to determine the suitability of the intended landing point. Motion parallax may make the rate of closure difficult to determine until the aircraft is close to the landing area. Reduce airspeed to slightly above effective translational lift until the rate of closure can be determined. Before reaching the near edge of the landing area, the descent should be stopped and the rate of closure slowed. At this point, decide whether to continue the approach or make a go-around.

NOTE 1: To successfully operate into small areas, it may be necessary to place the nose of the aircraft over the edge of the landing area. This may cause a loss of important visual references when on final approach. The other crew member must assist in providing information on aircraft position in the landing area.

NOTE 2: On approach, avoid descents greater than 700 FPM.

MUD/MUSKEG/TUNDRA CONSIDERATIONS: Select a suitable area and terminate the approach to a 10-foot hover over the intended touchdown point. Begin a vertical descent until the aircraft touches down. Check aircraft stability while lowering the collective. If the area is suitable, lower the collective fully down and neutralize the cyclic and pedals.

TRAINING AND EVALUATION REQUIREMENTS: ***Define "where" the task will be trained and evaluated. If the task can only be trained and evaluated in the aircraft, state it clearly in this section. Some tasks may be trained in the simulator and the aircraft, but must be evaluated in the aircraft. Some may be trained and evaluated in either the aircraft or the simulator. Some tasks, for safety reasons, may only be trained and evaluated in the simulator. All tasks imply some academic evaluation, but those listed as academic only do not require flight hands-on training or evaluation.***

1. **Training.** Training may be conducted in the aircraft/simulator.

2. **Evaluation.** Evaluation will be conducted in the aircraft.

REFERENCES: FM 1-202, FM 1-203, TC 1-204. ***References list sources of information relating to the task. List only unique references.***